

Exhibit D

Part 2 of 2

1 shouldn't have to jailbreak it to download a rival 03:16:35
2 app. Actually I think that requiring people to do
3 that itself is a -- a restraint. So I don't --
4 I -- I don't think there would be a need to
5 jailbreak for this particular reason. 03:16:50

6 And I'm not saying there would be a
7 general ability in a but-for world to do any sort
8 of jailbreaking you want on -- on your phone, but
9 I'm just saying that this -- this technical
10 restraint on actual jailbreaking was being used to 03:17:00
11 reinforce the exclusivity restraints in the actual
12 case.

13 Q. (By Mr. Swanson) So in your opinion,
14 Apple would need to realize some amount of its
15 computer code in the but-for world; is that 03:17:17
16 correct?

17 A. Yeah, the code that it's using to exclude
18 rivals, yes. It couldn't -- to the extent it's
19 using those as a way to condition exclusivity, that
20 would have to be modified. 03:17:29

21 Q. And -- and would any of the programming
22 of any of the chips on the iOS devices need to be
23 changed in the but-for world?

24 MR. LOPEZ: Objection.

25 THE DEPONENT: I -- I don't believe so, 03:17:44

1 but you'd have to ask a -- a computer expert that. 03:17:48

2 Q. (By Mr. Swanson) You don't rule that
3 out?

4 A. I -- I don't --

5 MR. LOPEZ: Objection. 03:17:54

6 THE DEPONENT: -- rule that out. I -- I
7 haven't investigated that and it's not my area of
8 expertise.

9 Q. (By Mr. Swanson) Could you turn to
10 paragraph 343 of your report. It's on page 180. 03:18:05

11 A. Okay.

12 Q. The -- the report here says that there
13 are a little over 1.2 million developers in Apple's
14 currently produced transaction data, but only a
15 little more than 59,000 are class members. 03:18:32

16 Do you see that?

17 A. Yes.

18 Q. So the class includes less than 5 percent
19 of the developers in the transactional data, right?

20 A. Yes. 03:18:49

21 Q. And there are over a quarter million U.S.
22 developers who are not included in the class,
23 right?

24 A. Could you say that question again.

25 Q. There are over a quarter million U.S. 03:19:07

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1 developers excluded from the class? 03:19:10

2 MR. LOPEZ: Objection.

3 THE DEPONENT: Well, they're -- they're

4 not excluded from the class. They're -- they're

5 not they never paid a commission, so they're not 03:19:18

6 in the class.

7 Q. (By Mr. Swanson) Um-hmm. Out of that

8 quarter million, didn't most use the App Store for

9 free apps?

10 MR. LOPEZ: Objection. 03:19:28

11 THE DEPONENT: I -- I assume so.

12 Otherwise, they would have paid a commission.

13 Q. (By Mr. Swanson) In your opinion, do

14 those quarter million U.S. developers have any

15 economic interests that conflict with those of the 03:19:44

16 class members with regard to the remedies sought in

17 this case?

18 MR. LOPEZ: Objection. Calls for a legal

19 conclusion.

20 THE DEPONENT: I don't think so. I think 03:19:56

21 they're going to pay zero commission either way in

22 the but-for world. And as I said before, I

23 think they're in a -- a -- a separate market.

24 Q. (By Mr. Swanson) Well, as you indicated,

25 you hadn't given that any thought before this 03:20:11

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1 deposition, so how do you know they'll pay a 03:20:14
2 zero -- you said zero commission, I believe. How
3 do you know they'll pay a zero commission in the
4 but-for world?

5 A. Oh, well, I mean, it's just been -- I 03:20:24
6 guess a consistent business policy is to charge,
7 you know, commissions as a percentage of price and
8 that's by Apple and just by every other successful
9 app distributor. So I don't think there's any
10 reason to think that would be any different in the 03:20:40
11 but-for world and there'd be no reason to think
12 that the developers who find a price of zero to be
13 optimal for their apps, no reason to think why they
14 would not behave any differently in the but-for
15 world. 03:20:58

16 Q. Thank you.
17 Could you turn to page 14 of your report,
18 paragraph 15. Tell me when you're there.

19 A. Okay. Yeah.

20 Q. I'm looking at the very end of that 03:21:27
21 paragraph where you say that "anticompetitively
22 inflating the average App Store profit-maximizing
23 commission harmed 100 percent of class members."

24 Do you see that?

25 A. Yes. 03:21:40

1 Q. Are you offering the opinion in this case 03:21:41
2 that Apple's alleged conduct injured every single
3 developer in the class?

4 A. Yes.

5 Q. What do you mean by "average App Store 03:21:51
6 profit-maximizing commission"?

7 A. Well, what I say in here is the next
8 section, that the previous section said that the
9 average commission was increased. The subs- -- the
10 reason the subsequent section was a -- that 03:22:06
11 increase in the average harmed everybody because in
12 the but-for world, they would have reduced both of
13 the only two tiers that they used.

14 Q. I'm just asking what that specific term
15 means, to have a lot of bona fiders "average 03:22:20
16 App Store profit-maximizing commission" is -- is
17 that different from the average App Store
18 commission?

19 A. No. It's the average that they -- they
20 charged. I'm -- I -- I call it the 03:22:38
21 profit-maximizing one because this section is
22 relying on economic analysis to show it would have
23 been profit-maximizing for them to charge a lower
24 price in the but-for world. So, you know, as an
25 economist, that's what I can offer an opinion 03:22:54

1 about, that it would have been profit-maximizing 03:22:56
2 and, therefore, you would expect it as a matter of
3 economics.

4 Q. You would expect that the compensation
5 that Apple sought or would seek in the but-for 03:23:04
6 world would be the compensation that would maximize
7 its profits; is that correct?

8 A. Yes, and in the actual world. But the --
9 the key is it would be lower in the but-for world.

10 Q. Have you quantified the minimum amount of 03:23:19
11 harm or injury that you contend every developer has
12 occurred?

13 A. No. I just -- I just calculate -- I just
14 conclude that it is -- would be some reduction with
15 an increased competition. Now, if you -- you know, 03:23:38
16 if you adopt one of the methods, say, of
17 Professor Economides, you can then figure out what
18 the minimum harm would be. It would be the
19 difference between the actual commission rate and
20 the but-for commission rate. That would be the 03:23:52
21 minimum amount of harm multiplied by the sales of
22 every individual developer.

23 But I myself haven't made that
24 quantification. My opinion is just that all of
25 them were harmed to some extent. 03:24:05

1 Q. And "to some extent" would be a minimum 03:24:09
2 amount, so are you saying all of them were harmed
3 by at least a penny?

4 A. They're certainly all harmed by at least
5 a -- a -- a penny and I just haven't quantified it. 03:24:22
6 I -- I would expect much more than a penny. I
7 mean, all the evidence on what competitive markets
8 look like indicate that there's prices, you know,
9 well below 30 percent typically. So it's -- it's
10 generally not just a -- a penny. 03:24:38

11 Q. Well, are you opining that each developer
12 was harmed by more than a dollar?

13 A. I haven't quantified, but I'm sure it's
14 more than a dollar. It's going to -- there would
15 be some percentage reduction. 03:24:54

16 And so, you know, there -- if I said
17 it -- even if it's a 1 percent change, you would
18 have to be a developer who only sells \$100 worth of
19 goods to be harmed by only a dollar.

20 So -- but here it seemed like from 03:25:09
21 Professor Economides, it's going to be generally
22 about 14 to 15 percent. So multiply that times
23 their -- their sales and their harm, to some
24 degree -- however -- however much they sold.

25 Now, some developers may have sold very 03:25:26

1 little. And I guess, you know, maybe you'd have to 03:25:28
2 look and see. And I haven't looked at the data to
3 see which of the minimum amount of total sales by
4 any member of the class. I guess that could give
5 you a bound on the lower -- lowest possible amount 03:25:39
6 of harm.

7 Q. Are -- are you equating harm with a loss
8 of profits?

9 A. Harm is any monetary harm to them. So,
10 you know, I think, at a minimum, is that they 03:25:56
11 suffered the overcharge on the commission. But if
12 in the but-for world rather than exclusively buy
13 through Apple, they would have preferred to add or
14 substitute two rival distributors, it would have --
15 that -- that must have been even more profitable 03:26:15
16 for them. So I think they would also be harmed by
17 those additional lost profits.

18 Q. Is it your opinion that Apple's alleged
19 conduct caused each developer in the class to lose
20 some amount of profit? 03:26:28

21 A. Yes, because their -- their -- at a
22 minimum, they are -- they suffered the commission
23 overcharge and they would have paid less.

24 Q. On paragraph 16, on page 14, you state
25 that "Evidence common to the class indicates that 03:26:48

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1 all class members paid an anticompetitively 03:26:51
2 inflated commissions" -- or am I getting that
3 right?

4 A. I think that's a typo. It should be --

5 Q. Yes. Yeah. That's what -- 03:27:02
6 "anticompetitively inflated commissions to Apple
7 during the class period"?

8 A. Yes.

9 Q. Does payment of an anticompetitively
10 inflated commission in the actual world necessarily 03:27:17
11 mean that a developer had lower profits in the
12 but-for world?

13 MS. MANIFOLD: Objection.

14 Q. (By Mr. Swanson) Let me rephrase that.

15 A. Yeah. 03:27:27

16 Q. Does payment of an anticompetitively
17 inflated commission in the actual world necessarily
18 mean that a developer would have higher profits in
19 the but-for world?

20 MS. MANIFOLD: Objection. 03:27:37

21 THE DEPONENT: Yes. I think so.

22 MR. LOPEZ: Join.

23 Q. (By Mr. Swanson) So the mere fact that
24 Apple's average commission would have been lower in
25 the but-for world, in your view, implies that all 03:27:53

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1 class members were injured; is that correct? 03:27:58

2 A. No. I added this whole section after
3 that. That's a gross mischaracterization of my
4 testimony and of my report.

5 Q. Okay. Does your opinion on 100 percent 03:28:09
6 classwide impact depend on all of the Apple conduct
7 alleged in the complaint being found to be
8 anticompetitive?

9 A. No. I think it's enough that there was
10 exclusivity restraints that prevented competition, 03:28:24
11 and meaningful compensation, that would have
12 lowered commissions. So whether they needed all of
13 those exclusivity restraints to do so, I don't
14 think they probably needed every single one of
15 them, but -- but that we had all of them in the 03:28:40
16 actual world.

17 Q. Does your opinion on 100 percent
18 classwide impact depend on Apple being liable for
19 all of the conduct that you deem anticompetitive --
20 anticompetitive in part III of your report? 03:28:54

21 A. No, I don't think so. It doesn't depend
22 on any of it being, I guess. If -- if some minor
23 features of it were not deemed to be violations, I
24 still think the overall effect was to exclude all
25 rival competition and they would have -- one would 03:29:15

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1 expect a lot more competition in the but-for world 03:29:18
2 for the reasons that I mentioned in parts IV and V.

3 Q. Does your opinion on 100 percent
4 classwide impact depend on Apple being found liable
5 for allegedly restraining direct distribution or 03:29:31
6 sideloading of iOS apps?

7 A. I -- it depends upon restraining rival
8 distribution methods. I have not reached an
9 opinion whether in the but-for world how important
10 sideloading would be to that and whether other 03:30:02
11 methods of rival app distribution might be equally
12 effective, since we can't really observe that
13 difference in the actual world because Apple has
14 squelched all of them.

15 Q. If the finder of fact determines that 03:30:16
16 Apple was fully justified in designing the iPhone
17 without sideloading and that such conduct was not
18 anticompetitive, would that affect your opinion
19 about 100 percent classwide impact?

20 MR. LOPEZ: Objection. 03:30:29

21 THE DEPONENT: I -- I don't think so.
22 Because they still have a lot of other exclusivity
23 restraints, and they have prevented any competition
24 at all. I would expect to see more competition in
25 the but-for world. 03:30:46

1 Q. (By Mr. Swanson) So your opinion about 03:30:48
2 100 percent classwide impact does not depend on
3 whether or not sideloading exists in the but-for
4 world; is that correct?

5 A. Yeah. I think either way there would be 03:31:02
6 common impact.

7 Q. Does your opinion on 100 percent
8 classwide impact depend on Apple being found liable
9 for having antisteering rules in its App Review
10 guidelines? 03:31:16

11 A. I don't think so. I -- I -- to me the
12 antisteering rules are a way of reinforcing the
13 restraint on in-app purchases, but they're not
14 necessary for it.

15 Q. So is your opinion on 100 percent 03:31:35
16 classwide impact consistent with Apple maintaining
17 the antisteering rules in its App Review guidelines
18 in a but-for world?

19 MR. LOPEZ: Object to form.

20 THE DEPONENT: Can you say that again. 03:31:52

21 Q. (By Mr. Swanson) Is your opinion on
22 100 percent classwide impact consistent with Apple
23 retaining the antisteering rules in its App Review
24 guidelines in the but-for world?

25 MR. LOPEZ: Objection. Form. 03:32:07

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1 THE DEPONENT: I would still find 03:32:08
2 100 percent impact without it. But my -- my
3 conclusion is that they were part of the
4 anticompetitive exclusionary restraint. So they do
5 worsen things. 03:32:22

6 So my -- my opinion would be that they
7 shouldn't exist in the but-for world. But if they
8 did exist in the but-for world, I don't think that
9 would alter the conclusion if there's 100 percent
10 injury to the class from all the other exclusivity 03:32:34
11 restraints.

12 Q. (By Mr. Swanson) Well, excepting
13 sideloading, right, because your opinion doesn't
14 depend on that, right?

15 A. Well, these are all incremental ways of 03:32:47
16 exacerbating exclusive -- the restraint. But even
17 without them there would remain all kinds of other
18 exclusivity restraints.

19 Q. Does your opinion on 100 percent
20 classwide impact depend on Apple being found liable 03:33:01
21 for foreclosing iOS app distribution on
22 jailbroken iOS devices?

23 A. Foreclosing iOS -- no. I guess I --
24 again, that's -- you know, jailbroken phones are a
25 very minor part of the market. So I wouldn't 03:33:23

1 expect that to change much. 03:33:27

2 But it does, you know -- it does show the
3 extent to which they're imposing really very
4 absolute exclusivity restraints.

5 But -- but jailbreaking has become very 03:33:36
6 rare. So I think even without the particular
7 restraints on use of rival app distribution on
8 jailbroken phones, we would still have very similar
9 foreclosure and very similar prevention of
10 competition by rival app distributors. 03:33:54

11 Q. Does your opinion on 100 percent
12 classwide impact depend on Apple being found liable
13 for an anticompetitive tie between iOS
14 smartphones and tablets and iOS app distribution?

15 A. No. I think that tie reinforces -- as I 03:34:11
16 say, in my report, that's just -- I think it's part
17 of the way that they reinforce their exclusivity
18 restraints.

19 But even without that tie to see
20 imposition of a one product exclusivity restraint 03:34:25
21 would still have the same anticompetitive effects.

22 Q. Do your opinions about classified injury
23 depend on the class prevailing on all claims?

24 A. On all claims?

25 Q. Uh-huh. 03:34:42

1 MR. LOPEZ: Object to form. 03:34:45

2 THE DEPONENT: I don't know what you
3 mean. There's a -- what are the -- what's the
4 difference in claims. There's a monopolization
5 claim. I don't remember... 03:34:51

6 Q. (By Mr. Swanson) Well, in your -- in
7 your opinion, does the same 100 percent classwide
8 impact exist under the attempted monopolization
9 claim as the actual monopolization claim?

10 A. I -- I think so. I don't think in terms 03:35:06
11 of a fact there's any difference between those
12 claims. I think they're just, you know, different
13 legal conditions for proving liability. But I
14 think in terms of the commonality of the effect on
15 the class, it would be the same. 03:35:21

16 Q. If the finder of fact found attempted but
17 not actual monopolization, would your conclusion
18 about 100 percent classwide impact remain the same?

19 A. Yes, I think so.

20 MR. LOPEZ: Objection. 03:35:36

21 Q. (By Mr. Swanson) Does your report
22 address whether there is classwide impact under the
23 California unfair competition law claim?

24 A. I -- I don't analyze any of the legal
25 claims. I just -- I'm just talking about the 03:35:49

1 effects of the conduct. So if it's the same 03:35:51
2 conduct in that claim as in the other claims, then
3 my conclusions would apply to it.

4 Q. Let me ask you to flip to page 183.

5 THE DEPONENT: Is it about time for 03:36:10
6 another break? We've been going for about another
7 hour.

8 MR. SWANSON: Okay. We can -- we can do
9 that.

10 MR. LOPEZ: Very good. 03:36:19

11 MR. SWANSON: All right.

12 MR. LOPEZ: And do you mind if we take,
13 14 minutes time this before we come back, and the
14 only reason I ask is because it's lunch time in the
15 West Coast and I'm going to grab something really 03:36:19
16 quick.

17 MR. SWANSON: Okay. Yeah. Perfectly
18 fine with me.

19 THE DEPONENT: All right. So 3:50 my
20 time? 03:36:19

21 MR. LOPEZ: Yes. And what's our total
22 elapsed time?

23 THE VIDEOGRAPHER: Hold on one second.

24 THE COURT REPORTER: Can we go off the
25 record. 03:36:33

1 THE VIDEOGRAPHER: We are going off the 03:36:37
2 record at time 3:36 p.m. This is the end of
3 media 4.

4 (Recess taken.)

5 THE VIDEOGRAPHER: We're on the record at 03:52:46
6 3:52 p.m. This is the beginning of media 5 in the
7 deposition of Einer Elhauge.

8 Q. (By Mr. Swanson) All right. Back --
9 back to the grindstone.

10 In your opinion, Professor, does the 03:53:03
11 evidence in the Epic case establish that
12 100 percent of class members were injured by
13 Apple's alleged anticompetitive conduct?

14 A. I haven't based any conclusions on
15 whether the evidence in the Epic case alone would 03:53:21
16 establish that. I relied on my own analysis in my
17 report.

18 Q. Okay. If your analysis and the opinions
19 you've expressed in your report are correct, would
20 it not be your expectation that the Epic case 03:53:32
21 evidence would establish that 100 percent of class
22 members were injured?

23 MR. LOPEZ: Objection.

24 THE DEPONENT: I think in the Epic case
25 it's different. There's one individual plaintiff 03:53:46

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1 trying to establish their own case with -- I mean, 03:53:49
2 slightly different theories, perhaps, or a tying
3 claim that I didn't reach. And they -- from what
4 you said, some different conclusions about some
5 other matters, too. 03:54:08

6 So I -- I don't know. I -- I - the
7 only -- the only thing I relied on, I think, for
8 the Epic case was the testimony of Tim Cook because
9 I couldn't find that anywhere else.

10 But I haven't reached any assessment of 03:54:21
11 whether the other evidence in the Epic trial itself
12 would have sufficed to show the classified injury
13 that I -- that I find here.

14 Q. (By Mr. Swanson) Okay. Thank you.

15 Now, before we broke, I was directing you 03:54:38
16 to page 183. I don't know if you've got that in
17 front of you.

18 A. Not yet.

19 Q. Okay. Paragraph 350.

20 A. Okay. 03:54:59

21 Q. In the last sentence of paragraph 350,
22 you state that "even if Apple would have reduced
23 only its default 30% commission in the but-for
24 world, then 99.99% of the class members that appear
25 in Apple's currently produced data were still 03:55:11

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1 harmed."

03:55:15

2 Does your opinion on classified impact
3 depend on Apple reducing its default commission
4 rate below 30 percent in the but-for world?

5 A. Yes. My -- yeah. I offered the opinion
6 that they would off- -- lower both the 30 and the
7 15 percent and -- and the 15 percent commission.
8 And I use that for my 100 percent conclusion.

03:55:37

9 The 350 -- this -- this paragraph 350 is
10 just saying, in the alternative, even if you only
11 thought they would lower the 30 percent one, we
12 still have 99.99 percent of the class members
13 injured.

03:55:50

14 Q. If Apple charges a default 30 percent
15 commission rate in the but-for world, would fewer
16 than 99.99 percent of class members be harmed?

03:56:02

17 MR. LOPEZ: Objection. Form.

18 THE DEPONENT: Could you say that again.

19 Q. (By Mr. Swanson) If Apple charges a
20 default 30 percent commission rate in the but-for
21 world, would fewer than 99.99 percent of class
22 members be harmed?

03:56:18

23 A. I don't know. I haven't quantified
24 what -- which percentage would be harmed. We
25 wouldn't have evidence that they paid -- that --

03:56:42

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1 that most of -- that a lot of the -- for a lot of 03:56:43
2 transactions, we wouldn't have evidence that they
3 paid a higher commission. But they might be harmed
4 just by lacking access to other distributors and
5 being able to pay other distributors a lower 03:56:56
6 commission as well.

7 That just wasn't the basis that I used
8 for my conclusion that at least 99.99 percent were
9 harmed. But I wouldn't say that the absence of
10 that shows necessarily that less than 99.99 percent 03:57:10
11 were harmed.

12 Q. Well, have you made any estimate of
13 injury based on the assumption that in the but-for
14 world Apple continues to use a 30 percent default
15 commission rate? 03:57:24

16 A. No. My analysis concludes that Apple
17 would have lowered that commission rate, and that
18 that's a methodology that we can use to show that
19 there was a classified injury. That doesn't
20 preclude the possibility there would be other 03:57:36
21 theories of harm, which you could also show
22 classified injury. It's just not the mechanism
23 that I use to -- to show that.

24 Q. If one made the assumption that in the
25 but-for world Apple continued to use a 30 percent 03:57:54

1 default commission rate, how would you calculate 03:57:57
2 whether a given developer was injured?

3 A. I didn't offer an opinion on that in the
4 report because that's not -- like I said, my
5 methodology was to show that they would lower the 03:58:10
6 default commission to 30 percent and what the
7 implications were.

8 I could -- I could talk about, off the
9 top of my head, various ways you might look at it.
10 But that's not the methodology that I used. 03:58:25

11 Q. Do you have an opinion on whether fewer
12 than 99.99 percent of class members would be harmed
13 if Apple charged a default 30 percent commission
14 rate in the but-for world up until 2018?

15 A. I haven't -- I haven't made that 03:59:01
16 calculation using this method, you know. I -- I
17 think we -- we could figure out, if you assume just
18 that, how many class members at least had at least
19 one transaction from Apple over that time period.

20 So that might -- you might be able to 03:59:19
21 calculate a minimum percentage of class members
22 injured. But in the but-for world, they could also
23 use rival distributors. So this measure, in some
24 way, is conservative because often they would find
25 that attractive as either an addition or instead of 03:59:35

1 using Apple. So it could be more that would be 03:59:39
2 injured than that.

3 Q. Well, if more than 23 percent of class
4 members paid no commissions in the real world after
5 2017, would 23 percent of class members be 03:59:57
6 uninjured if Apple maintained a default commission
7 rate at 30 percent until 2018 in the but-for world?

8 MR. LOPEZ: Objection.

9 THE DEPONENT: I don't think so, no. It
10 doesn't improve that, for the reasons I mentioned 04:00:22
11 before.

12 Q. (By Mr. Swanson) And the reason you
13 mentioned before is that even if Apple was charging
14 a 30 percent commission rate in the but-for world
15 for some period of time, a given developer might 04:00:35
16 choose to go to a different App Store that charges,
17 I presume, a lower commission rate; is that -- is
18 that your position?

19 A. Well, either a lower commission rate or
20 services that they must find more profitable than 04:00:48
21 using Apple. Or the most likely is using both of
22 them and gaining more profits by having multiple
23 outlets for -- for distribution.

24 So I don't think -- there's no particular
25 reason to assume that in the world with multiple 04:01:05

1 distributors developers would only choose one 04:01:08
2 distributor.

3 Q. And how -- how would you go about
4 determining whether a specific member of the class
5 would choose multiple distributors in a but-for 04:01:17
6 world where Apple continues to choose 30 percent --
7 continues to charge a 30 percent default
8 commission?

9 A. I don't know. I haven't investigated
10 that because that wasn't my methodology. I was 04:01:29
11 just answering your question about whether the
12 evidence you hypothesize would show that a fewer
13 percentage of class members were injured. I would
14 say no.

15 There's other ways they could be injured. 04:01:40
16 But I haven't tried to calculate the percentage of
17 injury in that way. Since, in fact, I find that
18 Apple would charge below 30 percent commission
19 throughout this period. And, therefore, it's very
20 easy to find 99.99 percent. And that would also 04:01:53
21 leave -- the 15 percent would be lower as well, we
22 have to take into account.

23 Q. If Apple adopted Steam's 30, 25, 20
24 commission structure in the but-for world, would
25 fewer than 99.99 percent of class members be 04:02:12

1 harmed? 04:02:15

2 MR. LOPEZ: Objection.

3 THE DEPONENT: Well, this particular

4 methodology would no longer apply. Again, I

5 wouldn't -- I wouldn't say that we know that fewer 04:02:28

6 of them would be injured. They would have options

7 to try different distributors.

8 But I would disagree with the premise

9 because Apple has had a very strong policy against

10 disfavoring small developers, and the Steam method 04:02:39

11 does disfavor small developers.

12 So that's one of the reasons why I

13 conclude that they would lower both tiers. I don't

14 think they would adopt anything like the Steam

15 policy. But even if they did, you know, in a 04:02:56

16 but-for world people could choose Steam, could

17 choose others. And if they found it better to

18 choose the others, then it must be more profitable

19 or -- or they would just use both, which they might

20 find more profitable. 04:03:14

21 Q. (By Mr. Swanson) If Steam opened a

22 rival iOS App Store in the but-for world, would

23 it charge its 30, 25, 20 commission structure?

24 MR. LOPEZ: Objection.

25 THE DEPONENT: Maybe. I mean, it is what 04:03:33

1 it charges in -- you know, obviously in the markets 04:03:34
2 it now operates in. Whether competitive pressure
3 lowering Apple's prices might cause them to lower
4 their top price or not, I'm not -- I'm not sure. I
5 haven't reached a conclusion about Steam's but-for 04:03:51
6 commission in the iOS app market.

7 Q. (By Mr. Swanson) If, in the but-for
8 world, the average but-for commission on the
9 App Store would decline slowly downward from
10 29.5 percent in 2015, would fewer than 04:04:08
11 99.99 percent of the class members be harmed?

12 A. Could you repeat that question.

13 Q. Well, let's start with one premise.

14 Are -- are you -- do you agree that the
15 average commission in the App Store, as calculated 04:04:27
16 by Professor Economides, is 29.5 percent in 2015?

17 A. I -- I just don't recall that number.
18 If -- if you want to show it to me, it might
19 refresh my recollection, but --

20 Q. Well, let's just use that as part of the 04:04:43
21 question. It's -- the record is what it is.

22 But if, in the but-for world, the average
23 commission on the App Store would decline slowly
24 downward from 29.5 percent in 2015, would fewer
25 than 99.99 percent of class members be harmed? 04:05:03

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1 MR. LOPEZ: Objection. 04:05:08

2 THE DEPONENT: So in the but-for world,
3 the average would decline slowly. But at -- with
4 your -- the measurement you're talking about, the
5 average commission, the -- in the actual world, the 04:05:17
6 average commission declines slowly.

7 So we -- we'd have to compare the average
8 commission to the but-for commission in order to
9 figure that out or -- or look at the two tiers
10 separately as -- as I do. 04:05:32

11 But if the top tier would have been
12 29.5 percent from June 2015 and gotten lower over
13 time, then I think it would still be 99.99 percent
14 at least were injured.

15 Q. (By Mr. Swanson) If the but-for world 04:05:52
16 was the same as the actual world, up to the date
17 that Epic requested that Apple allow it to open an
18 iOS store, would fewer than 99.99 percent of class
19 members be harmed?

20 MR. LOPEZ: Objection. 04:06:07

21 THE DEPONENT: Again, I don't know. I
22 mean, this particular methodology would not apply,
23 but -- well, actually, 100 percent of the people
24 would be injured because after that period Apple
25 would have lowered both tiers. So I don't think it 04:06:27

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1 matters whether you paid the top tier or not, if 04:06:31
2 I'm understanding your hypothetical correctly.
3 Q. (By Mr. Swanson) Well, do you have an
4 understanding as to when Epic requested that Apple
5 allow it to open an iOS store? 04:06:41
6 A. Sometime after June 2015. So then I
7 thought for your hypothetical it didn't really
8 matter what the precise date is.
9 I don't recall the date. It seemed --
10 I -- I think it was relatively recent, last year or 04:06:53
11 two, but I'm -- I don't remember the date.
12 Q. Yeah, go ahead and assume it's 2020.
13 So if the but-for world was the same as
14 the actual world, up to the date that Epic
15 requested that Apple allow it to open an iOS 04:07:08
16 store, would fewer than 99.99 percent of class
17 members be harmed?
18 A. Well, I guess we'd have to investigate
19 how -- I -- I don't know how many have transactions
20 over the relevant period then because -- but if all 04:07:26
21 of them have some transactions, whether it's
22 30 percent or not, then 100 percent would be
23 injured because both of the tiers would have been
24 lower in the but-for world after whatever date in
25 2020 that you're talking about under your 04:07:43

1 hypothetical. But I didn't investigate that since 04:07:48
2 it doesn't really have any bearing on the actual
3 difference between the actual but-for world.

4 Q. If, in the but-for world, the App Store
5 commission would be different for game and nongame 04:08:05
6 app transactions, would fewer than 99.9 percent of
7 class members be harmed?

8 A. Well, again, like I said, I -- I would
9 disagree with the premise, given my conclusion that
10 there -- there was no price discrimination between 04:08:22
11 games and nongames in the actual world and wouldn't
12 be in the but-for world since they use the same
13 structure.

14 So I guess it would have to depend upon
15 more detail about what -- what your but-for world 04:08:34
16 looks like and why, in order to try to figure out
17 the -- this calculation.

18 Q. What if, in the but-for world, Apple
19 charged a 50 percent commission for game
20 transactions and a zero commission or zero price 04:08:53
21 for nongame app transactions, would 100 percent of
22 the class members be harmed in that case?

23 MR. LOPEZ: Objection.

24 Q. (By Mr. Swanson) Or -- or 99.99?

25 A. So you charge 50, 5-0 percent? 04:09:13

1 Q. 50. 04:09:16

2 A. 50 percent.

3 MR. LOPEZ: Objection.

4 THE DEPONENT: Well, certainly this
5 methodology wouldn't -- that I am using would not 04:09:19

6 apply in that case, and we'd have to have some
7 other methodology to figure out what would happen
8 to all these class members.

9 Obviously, if you're selling game apps,
10 if you stuck with Apple exclusively, your 04:09:35
11 commission rate would be going up. But I would
12 imagine in that but-for world very few people would
13 stick with Apple exclusively.

14 And so maybe 100 percent of them would
15 switch to other app distributors and 100 percent of 04:09:50
16 them might be harmed. But that wouldn't -- it
17 would be a different methodology than what I used,
18 and certainly a very different conclusion about the
19 but-for world than I used.

20 Q. (By Mr. Swanson) Are you aware that 04:10:05
21 Android app stores in China charge game app
22 developers a 50 percent commission?

23 MR. LOPEZ: Objection.

24 THE DEPONENT: I'm not aware of any
25 evidence to support that conclusion. 04:10:18

1 Q. (By Mr. Swanson) That's something you've 04:10:20
2 never heard before?

3 A. I have not, no.

4 Q. And that's something -- have you analyzed
5 what Android app stores charge game developers by 04:10:26
6 way of commission in China?

7 A. No. My -- evidence I have seen indicates
8 that -- I don't think that I've looked at China
9 specific evident, but that they don't discriminate
10 by genre here in the domestic market. Android 04:10:42
11 doesn't. Google doesn't. And the relevant market
12 here is the U.S. market. So that seems to me far
13 more relevant here.

14 And also, you know, as I mentioned in
15 detail in the appendix, it's hard to use any 04:10:58
16 Android market as a competitive benchmark since
17 it's got its own anticompetitive restraints that
18 are distorting that market as well.

19 Q. Well, does Google Play operate in China?

20 A. I don't know how they're distributing in 04:11:17
21 China. I believe -- I -- I don't know. I just
22 looked at the -- their operations here
23 domestically.

24 I know that sometimes there are stats
25 about their market share and they exclude China. 04:11:31

1 Whether that's because the Chinese have excluded 04:11:34
2 Google in China or not, I -- I don't recall.

3 Q. So you're not aware that Google Play does
4 not operate in China, I take it?

5 A. I haven't investigated that, no. I 04:11:47
6 looked at the -- their domestic share.

7 Q. And you're not aware that there are a
8 multiplicity of different Android app stores in
9 China?

10 A. No. I haven't investigated the Chinese 04:11:59
11 market.

12 Q. You don't think that would be a good
13 yardstick for determining what a but-for world
14 commission would be in -- in this case?

15 A. I -- I'd be happy to look at it, but I 04:12:13
16 haven't investigated it. I don't know whether it's
17 competitive, whether it's constrained regulatorily
18 by the Chinese. Whether it has its own
19 anticompetitive restraints. Can we get good data
20 there. 04:12:28

21 I guess if somebody has some good data on
22 it, I'd be happy to look at it. But it is -- it's
23 a totally different geographic market, and they
24 have totally different market conditions. So I
25 wouldn't leap to the conclusion that that's a 04:12:39

1 better benchmark than the ones that I used. 04:12:42

2 Q. You -- you didn't read that portion of
3 Dr. Evans' report in the Epic case about the
4 Android App Store market in China?

5 A. I don't recall it. I maybe recall some 04:12:59
6 discussion about China, but I -- I -- I don't
7 recall what the evidence looked like on whether it
8 was a good benchmark or not.

9 But I think -- I think I recall hearing
10 something about it in the Epic case, but I 04:13:18
11 didn't -- that was just -- I didn't read the
12 transcript and -- and follow the details of what
13 the arguments were in the Epic case about that.

14 Q. You're -- you're aware that Apple charges
15 a 30 percent commission in the App Store in China, 04:13:30
16 correct?

17 A. They charge it globally. So I guess
18 they -- they would charge it there as well.

19 Q. Would it surprise you if competing
20 Android app stores in China charged 50 percent 04:13:42
21 commission on game app transactions?

22 A. I think you already asked me that. I
23 just haven't investigated that. I don't know -- I
24 don't know if that's true or not.

25 Q. Yeah, that's not my question. 04:13:56

1 If you assumed it was true, would it 04:13:57
2 surprise you, as an economist?

3 A. I'd have to know more about what the
4 conditions were that -- that were resulting in that
5 kind of commission rate and what the conditions of 04:14:10
6 those particular distributors are.

7 I mean, I think sometimes, you know,
8 firms use a razor -- as in razors blades --
9 strategy to -- you know, where you subsidize the --
10 the game console, say, and you instead charge a lot 04:14:28
11 more per game distributed, or something like that.

12 So maybe that's what's going on. I -- I
13 just haven't investigated the Chinese market enough
14 to know whether to be surprised or not.

15 Q. Do you think that Amazon would be a 04:14:46
16 likely entrant in the but-for world?

17 A. Yes.

18 Q. And do you think that Amazon would set a
19 commission rate for purposes of effecting its
20 business in other markets? 04:15:03

21 MR. LOPEZ: Objection.

22 THE DEPONENT: I don't know what you mean
23 by that.

24 Q. (By Mr. Swanson) Well, would Amazon set
25 a rate to incentivize iOS users to switch to 04:15:13

1 Kindle -- Kindle devices? 04:15:21

2 MR. LOPEZ: Objection.

3 THE DEPONENT: I'm still not following
4 the point.

5 They're already on the Kindle device on 04:15:37
6 iOS, so I'm not sure what you're hypothesizing.

7 Q. (By Mr. Swanson) All right. In your
8 report you indicate that 99.99 percent of all class
9 members appearing in the data produced by Apple
10 paid Apple's default 30 percent commission on at 04:16:02
11 least one transaction.

12 That -- that's your understanding?

13 A. Yes. I think that's that paragraph we
14 were just looking at. Let me see.

15 Q. Yeah, I think -- I think it's the same 04:16:17
16 one.

17 A. Paragraph 350, yes.

18 Q. Yeah.

19 Do you agree that there are many
20 developers with just a few paid transactions, but 04:16:24
21 with millions of free iOS app downloads?

22 A. It could be. I -- I have not run that
23 particular calculation.

24 Q. Are you aware that Paramount [REDACTED]

25 [REDACTED] 04:16:44

1 [REDACTED] 04:16:48

2 A. I'm not aware of -- of that evidence.

3 Q. Well, if that's correct, those figures,
4 was Paramount injured by Apple's alleged conduct,
5 in your opinion?

04:17:02

6 MR. LOPEZ: Objection.

7 THE DEPONENT: So you have [REDACTED]

8 [REDACTED] Yeah, because they would have paid

9 less for those in the but-for world. And they

10 would have also had the option of -- of

04:17:14

11 distributing their product through more

12 distributors, then they might have preferred that.

13 Q. (By Mr. Swanson) If an iOS developer has
14 one 99 cent paid app for which there is a single
15 purchase over the class period, and a second free
16 app that has been downloaded 10 million times, is
17 that developer injured by Apple's alleged conduct,
18 in your opinion?

04:17:30

19 A. Yes.

20 MR. LOPEZ: Objection.

04:17:42

21 Q. (By Mr. Swanson) Are developers who have
22 free apps in the App Store, but who do not use
23 in-app purchase or charge a download price members
24 of the class?

25 A. I'm sorry. Say that again.

04:17:55

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1 Q. Are developers who have free apps in the 04:17:56
2 App Store, but who do not use in-app purchase or
3 charge a download price members of the class?

4 A. I -- I believe not by definition, right.
5 The -- the -- the class is defined as people who 04:18:09
6 paid a commission.

7 And if I'm understanding your question
8 correctly, you're talking about people who never
9 paid a commission to Apple during the class period.

10 Q. Do you have an -- do you have an opinion 04:18:21
11 as to whether such developers are injured by
12 Apple's alleged conduct?

13 A. If they never paid a commission, they
14 might be by the lack of choice, I suppose, because
15 the exclusivity restraint does apply to them. 04:18:39

16 It's just not the part that I analyzed.
17 I analyzed the harm to class members in -- in the
18 paid commission portion of the market.

19 Q. So when you say the exclusivity restraint
20 applies to them, are you saying the conduct is the 04:18:55
21 same with respect --

22 A. Yeah.

23 Q. -- with --

24 A. Yeah, the conduct is -- I mean -- yeah,
25 there's an exclusivity -- sort of like what I said 04:19:04

1 about doesn't really matter whether you divide up 04:19:06
2 the tying markets.

3 Here the exclusivity restraint does
4 exclude rivals from distributing even free,
5 you know, iOS apps. So in the free portion of 04:19:13
6 the market, for free apps, it is the case that
7 Apple would be deprived.

8 It wouldn't -- the harm wouldn't be
9 higher commissions. But it would be depriving them
10 of a freedom of choice to pick a different 04:19:32
11 distributor, who they might prefer, to pick
12 multiple distributors to increase their sales.

13 Q. So in your opinion, the -- the conduct
14 can be the same -- the anticompetitive conduct, in
15 your view, can be the same, but it can affect two 04:19:57
16 separate markets?

17 A. Yes. Yeah. So I -- I mean, that's --
18 it's -- it's -- I specifically say that for -- even
19 if you define the separate market for iOS app
20 distribution versus iOS IAPs, the exclusivity 04:20:14
21 restraints apply to both and even have competitive
22 effects on both, so even if you thought they were
23 separate markets.

24 Like right here, even though I think
25 there's a separate market for the -- you know, 04:20:26

1 distributing paid apps and -- and slash IAPs versus 04:20:29
2 the ones that are free, the exclusivity restraints
3 do apply to both. They -- and I think they have --
4 would have distinctive anticompetitive effects on
5 both. But they certainly would cause 04:20:44
6 anticompetitive effects to both markets, if you
7 define them separately.

8 Q. Well, you're leaning toward defining
9 those separately, right?

10 A. Yes. I think particularly the -- I mean, 04:20:55
11 even though the distribution -- some mechanisms are
12 the same, the -- the fact that it's -- you could
13 definitely find a different price discrimination
14 market there makes me think that they were separate
15 markets. I'm thinking about the price 04:21:15
16 discrimination portion of my analysis and applying
17 it to that.

18 Q. Have you assessed the impact of Apple's
19 conduct only on U.S. developers?

20 A. The impact -- in terms of classwideness, 04:21:28
21 I do. But the overall impact really is on the
22 overall market. They've inflated commissions
23 worldwide. So I think that commission structure
24 would continue to apply worldwide. So -- so it
25 would also harm foreign developers. 04:21:44

1 Q. How do you determine if a developer is a 04:21:50
2 U.S. developer?

3 A. I define them as a developer residing in
4 the United States if the country code equals USA,
5 or PRI for Puerto Rico, in Apple's content provider 04:22:03
6 lookup table, as I talk about in footnote 518 of my
7 report.

8 Q. Is TikTok a U.S. developer?

9 A. I -- I don't know. I don't -- I have not
10 memorized where every single developer is in terms 04:22:23
11 of how they're coded in Apple's transactional
12 database.

13 Q. Is Tencent a foreign developer?

14 A. Again, I don't -- it would depend on how
15 Apple categorized them in the database. I -- I 04:22:37
16 cannot remember each and every developer, how they
17 were coded.

18 Q. You -- you don't determine who is a U.S.
19 developer based on whether or not the -- their
20 parent company is a U.S. company? 04:22:54

21 A. I just followed Apple's own
22 categorization. If Apple's categorization is
23 wrong, in the database that it gave me, then -- for
24 any reason, then I guess my analysis would have
25 adopted the same assumption. 04:23:17

1 But, you know, if Apple wants to correct 04:23:18
2 the database, I'm happy to look into it to see
3 whether that would alter the analysis.

4 I didn't make -- I didn't make any of my
5 own assumptions about who is a U.S. company or not. 04:23:29
6 I relied on Apple's own database.

7 Q. Well, is it your understanding Apple
8 makes the determination or just enters the
9 developer's determination in Apple's database?

10 A. I -- I don't know if we got any detail 04:23:50
11 about how exactly Apple arrived at how they put the
12 country code in its database.

13 I assume they use a reliable methodology
14 of -- of some sort. But if there was evidence
15 about precisely how they did it, I have -- I have 04:24:11
16 not seen it.

17 Q. Well, did you ask either of the two named
18 plaintiffs whether they designated their own
19 country code?

20 A. I did not ask them that, no. 04:24:21

21 MR. LOPEZ: I guess I'm going to move to
22 strike that on the basis of the expert discovery
23 order.

24 Q. (By Mr. Swanson) Okay. Professor, in
25 the but-for world, could Apple adjust its 04:24:41

1 commission structure without lowering its default 04:24:45
2 30 percent commission?

3 A. I -- I concluded it would economically
4 not profitable for it to do so. I mean, if you say
5 it could, anything -- you could do anything. But 04:25:03
6 in terms of the economics, the same economics that
7 drive having a -- the two tiers would apply and
8 they would have to compete for all the developers.
9 So I conclude that they would find it
10 profit-maximizing to lower both of the tiers. 04:25:18

11 Q. What -- what rule of economics requires
12 Apple to lower its 30 percent default commission
13 rate in response to the entry of alternative iOS
14 app stores and sideloading?

15 A. Well, I mean, it's a logic that I offer 04:25:34
16 in -- in part V, which is, because of the increased
17 competition, they're going to have to lower their
18 average commission because the increased
19 competition applies to all -- for all the
20 distribution of all developers. It's not unique to 04:25:52
21 some versus others.

22 You would expect them to lower both the
23 commission rates to respond to the competition.
24 And because the -- what drives the 30 versus
25 15 percent difference is the need to incentivize 04:26:10

1 investment in video integration or in subscriber 04:26:17
2 retention. Those incentives would also exist in
3 the but-for world. And Apple's whole policy of
4 having a very rigid pricing structure that doesn't
5 deviate from -- with only two tiers, with no 04:26:31
6 individual negotiation, would also be what you
7 would expect would be their business strategy in
8 the but-for world because there's no reason to
9 think it would be otherwise.

10 So that combination of factors leads me 04:26:43
11 to the conclusion that it would lower both of the
12 tiers.

13 Q. Well, in the but-for world is the gap
14 between the higher and the lower tier commission
15 more than 15 percent in -- in commission points? 04:26:55

16 In other words, is it like 27, 12, 25,
17 10, or more?

18 A. Yeah. I don't offer a conclusion about
19 exactly what the levels they would choose for the
20 two lower rates, just that the -- the goals, 04:27:17
21 you know, given their business strategy to date,
22 would be to, you know -- they would maintain it --
23 the structure. Have enough of a difference to
24 incentivize this behavior, but also now compete
25 with rivals. So there -- there might be some 04:27:38

1 tradeoff there about the optimal differential 04:27:42
2 versus, you know, meeting competition.

3 So I'm not exactly -- I -- I've not
4 said -- offered an opinion about exactly what the
5 two but-for commissions rates would be. Just that 04:27:55
6 they would both be lower in order to satisfy this
7 twin goals.

8 Q. Well, currently, the gap between the two
9 is 15 percentage points, right?

10 A. Yes. 04:28:13

11 Q. And if in the but-for world the gap was
12 lower than that, there would be a lesser incentive
13 by your logic, would there not?

14 A. Yes, but they might need to compete more
15 for some of these developers charging 30 percent. 04:28:30
16 So that might be the tradeoff that I'm talking
17 about. It might be better, you know, maybe to cut
18 them both in half or something and make it be
19 15 percent, 7-1/2 percent, for example.

20 I -- you know, I'm not picking a 04:28:44
21 particular but-for commission levels of the two
22 tiers. Just that they would want to maintain the
23 differential and they would have to meet
24 competition so you would expect -- it's going to
25 have to meet a competitive constraint that would 04:28:59

1 not -- does not apply now. So I would predict that 04:29:02
2 both of those tiers would go down to some extent.

3 Q. Well, if the lower tier went down to
4 10 percent and the higher tier stayed at 30, that
5 would be an even higher incentive than in -- in the 04:29:12
6 current world, correct?

7 A. That would. But that wouldn't satisfy
8 the meeting a new competitive constraint problem.

9 Q. Well, is there -- your 15 percent,
10 7-1/2 percent presents only half of the incentive 04:29:27
11 in the current world, correct?

12 A. Yeah. I'm not saying that's a particular
13 one they'd pick. I'm just saying that's if --
14 if -- you know, they could pick all kinds of
15 different things. 04:29:42

16 They would maintain some incentive, but
17 it would be a different incentive, obviously, than
18 the incentive that they -- that they now have. But
19 it would meet competition.

20 So they've got the twin goals. So I 04:29:57
21 think all I can say for sure is that they would
22 lower both of them somewhat. I -- I haven't
23 offered an opinion about what the particular levels
24 would be.

25 Q. Well, the incentive to have a big gap 04:30:07

1 between the top and the -- the lower tier is a 04:30:09
2 factor that actually urges Apple to keep the upper
3 tier high, is it not?

4 A. I think they would want to maintain a
5 differential. It doesn't have to keep it high. 04:30:22
6 Because if they lower the bottom tier, you can
7 maintain the incentive while lowering both of them.
8 For example, you could make it 25, 10 percent.

9 It would still be 15 percent, if that's
10 the dominant factor maintaining exactly the same 04:30:34
11 incentive and -- while meeting competition in a
12 more effective way.

13 Q. Well, you couldn't have a upper tier that
14 was lower than 15 percent, could you, and maintain
15 the real world percent differential? 04:30:58

16 A. I guess it wouldn't be a 15 percent
17 differential where if you lower the top one below
18 15 percent. But I don't think anything -- I mean,
19 that -- that would make the average commission a
20 lot lower. 04:31:07

21 But there would be other incentives then
22 at that point, right. So, you know, if you're
23 paying a 0 percent commission in the video partner
24 program, even though the differential isn't that
25 high, that's just a very attractive option. So you 04:31:21

1 might expect just the sheer attractiveness of it to 04:31:27
2 increase investment of the video partners as well.
3 So I think the differential is a big factor, but
4 the absolute level is also a factor.

5 Q. You're familiar with the change in 04:31:42
6 commission structure that Steam adopted in late
7 2018, correct?

8 A. No. I'm not sure what you're referring
9 to.

10 Q. Well, are you aware that Steam changed 04:31:58
11 its commission structure in late 2018 in the PC,
12 Windows and other device arenas where Steam is
13 available?

14 A. No, I -- I don't recall that.

15 Q. Are you aware that this happened shortly 04:32:17
16 after Epic Games Store entered?

17 A. I'm -- I'm not -- I don't -- I'm not
18 recalling that evidence if -- if it's in the
19 record.

20 Q. Are -- are -- are you aware that Steam 04:32:37
21 currently has a 30, 25, 20 commission structure?

22 A. Yes.

23 Q. Okay. And -- and you don't know when or
24 why it adopted that?

25 A. I -- I don't know about the timing of it, 04:32:52

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1 no. And I -- and like I say, I don't have -- I 04:32:54
2 don't know of any statement about what -- what it
3 said motivated that particular structure.

4 Q. Okay. That's not something you studied?

5 A. Not so far, no. 04:33:06

6 Q. But you do understand that Steam changed
7 its structure at some point?

8 A. As I said, I'm not recalling that
9 evidence.

10 Q. Okay. Well, if Steam, before 2018, 04:33:19
11 charged the default 30 percent commission for all
12 app developers, and then after 2018 moved to a 30,
13 25, 20 percent commission structure, would that
14 have any significance for your opinions in this
15 case? 04:33:42

16 A. I don't think it would alter my
17 conclusions, but I -- I may have to look to see
18 more about what exactly the conditions were for
19 the -- the prior policy.

20 Q. In your -- well, one last question on 04:34:01
21 Steam.

22 Do you understand that Steam today
23 imposes a 30 percent commission on every developer
24 in its store for some -- for some part of the
25 developer's revenue? 04:34:25

1 A. Oh, I guess for the first 10 million, I 04:34:27
2 think, is 30 percent, yes.

3 Q. All right. And do you know how many
4 developers are on Steam's store?

5 A. I -- I don't know the number offhand, no. 04:34:37

6 Q. Do you have an understanding it's in the
7 thousands?

8 A. I -- I don't know the -- the number.
9 I -- I think they have a pretty good market share
10 in the Windows app market, as I recall. 04:34:48

11 Q. Okay. Do you know the percentage of
12 developers on Steam who pay less than a 30 percent
13 commission?

14 A. I -- I don't know that stat, no.

15 Q. Okay. Let me ask you to turn to page 192 04:35:10
16 of your report, paragraph 372.

17 Are you there?

18 A. You said -- you said page 192?

19 Q. 192, paragraph 372.

20 A. 372. Okay. 04:35:38

21 Q. So here you say "Apple would be unlikely
22 to create additional commission tiers in the
23 but-for world given that it has repeatedly decided
24 not to add additional commission tiers in the
25 actual world." 04:35:50

1 Are you saying here that Apple has 04:35:53
2 repeatedly assessed its commission tiers and
3 decided not to abandon the 30 percent tier?

4 A. No, it has -- the -- the two tiers are
5 30 and 15 percent, and it always chose one of the 04:36:03
6 two. It didn't -- it never wanted to pick a third
7 tier or to have something more complicated, like
8 discussed in paragraph 374, where they made the
9 commission vary with, you know, the royalty --
10 total royalties to developers. 04:36:25

11 Q. In -- in all the times since the
12 App Store opened, has Apple had a single tier for
13 longer than it's had two tiers?

14 A. I don't know. I haven't investigated
15 that question. 04:36:44

16 Q. Do you know -- do you know how long Apple
17 had only a 30 percent tier?

18 A. Let's see, maybe we can figure it out
19 from the dates here.

20 I think they started the 15 percent in -- 04:36:54
21 in 2015. So that's been six-plus years. And
22 the -- and they had a 30 percent tier -- I -- I
23 thought it might be 2009. You were saying 2008.
24 So I'd have to look at that particular year and --
25 if it's 2008 to 2015, it would be slightly longer 04:37:22

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1 with the -- the 30 percent for everybody than the 04:37:25
2 two tiers that they've had since March 2015.

3 Q. What was Apple's default commission in
4 2015, at the start of the class period?

5 A. The default was 30 percent. But they had 04:37:41
6 some people under the video partner program where
7 they were charging 15 percent.

8 Q. And what percentage of class members were
9 eligible for that 15 percent tier in 2015?

10 A. The data produced to me, as of the time 04:37:57
11 of this report, did not allow me to calculate that.

12 Q. Okay. Are you -- are you aware that it
13 was less than a tenth of a percent of the members
14 of the class?

15 A. Since Apple did not produce evidence from 04:38:17
16 which I could investigate that at the time, I -- I
17 can't give you an answer to that. I think there's
18 new production that Apple has produced. We haven't
19 yet had a chance to analyze it. And I believe we
20 have some questions about certain aspects of the 04:38:36
21 data that I believe the plaintiff's lawyers have
22 asked you about in interrogatories.

23 So I would -- I would anticipate being
24 able to answer that once we get clarification on
25 the data, because there's -- there's supposed to be 04:38:52

1 more identifiers about the -- who was in the video 04:38:55
2 partner program.

3 But as of so far, I haven't gotten the
4 Apple data that would allow me to calculate that,
5 and certainly didn't have it at the time of my 04:39:05
6 report.

7 Q. Okay. Did Microsoft charge a 30 percent
8 commission at some point in its store -- its
9 Microsoft store for Windows?

10 A. Yes, it had, and been notably 04:39:25
11 unsuccessful.

12 Q. How long did Microsoft charge a
13 30 percent commission in its Windows store?

14 A. I don't know the precise time they
15 charged 30 percent. And then it lowered it to 04:39:39
16 15 percent for nongame apps, and then I think
17 12 percent now for game apps.

18 But I think -- I -- well, my -- my
19 conclusion would be Apple would be very unlikely to
20 adopt that same 30 percent commission because 04:39:56
21 Microsoft only got 2 percent of the Windows app
22 distribution market. So it was obviously a very
23 unsuccessful strategy and Microsoft itself is
24 changing it now.

25 Q. And was 30 percent an unsuccessful 04:40:11

1 strategy for Steam? 04:40:15

2 A. Steam was pretty successful.

3 Now, the one thing I -- I haven't quite

4 unpacked is that Steam seems to allow some

5 self-distribution via the Steam platform. So that 04:40:27

6 may mean that the nominal 30 percent is not a real

7 30 percent, to the extent you can use the Steam

8 piece to do self-distribution for free via the

9 Steam platform.

10 So I -- I haven't yet figured out whether 04:40:44

11 we can calculate some alternative effective

12 commission from that. But it is a complicating

13 factor. And I -- I just don't know enough about

14 its early period, whether the 30 percent was a real

15 30 percent or whether it's like some other 04:41:00

16 developer, I think GOG, or something, that was

17 30 percent, but only presumptively. But they

18 didn't individually negotiate.

19 Was that the case at Steam, I don't know.

20 I'd have to look at whatever your evidence is about 04:41:18

21 Steam's 30 percent commission period to see how

22 uniform that was.

23 Q. You -- you haven't looked at that -- you

24 haven't looked at the evidence about Steam's

25 transactions that was produced by Steam? 04:41:34

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1 A. My staff looked through any evidence that 04:41:41
2 was produced. I myself have not looked at the
3 Steam transaction database.

4 Q. Did -- did you read Professor Economides'
5 conclusions about the Steam average commission 04:41:52
6 rate?

7 A. I did look at that. I'm -- I'm not
8 recalling what he said about Steam's average
9 commission rate before 2018.

10 Q. Did -- do you -- you believe that 04:42:08
11 Professor Economides calculated that average
12 commission rate properly?

13 A. I would assume so. I think he's a very
14 good expert, but I -- I haven't checked or tried to
15 independently validate it. 04:42:20

16 Q. In your opinion, as a matter of
17 economics, what's the relevant measure of damages
18 for an individual developer in this case?

19 A. Well, I'm not opining on damages. That's
20 Professor Economides' job. But I think the 04:42:36
21 damages -- as I understand, looking at his report,
22 he adopts the conservative measure of the
23 difference between the commission that they
24 actually paid Apple and the but-for commission.

25 Q. And that is an overcharge measure of 04:42:58

1 damages, correct? 04:43:01

2 A. Yes.

3 MS. MANIFOLD: Objection.

4 Excuse me. I'm sorry.

5 Objection. 04:43:06

6 Q. (By Mr. Swanson) Do you agree that an
7 overcharge measure of damages is appropriate, as
8 distinct from a lost profits measure of damages in
9 this case?

10 MR. LOPEZ: Objection. Calls for a legal 04:43:22
11 conclusion.

12 THE DEPONENT: I think that the
13 overcharge is a lost profit as a conservative
14 measure of their profit loss.

15 Q. (By Mr. Swanson) So is it your opinion, 04:43:34
16 as an economist, that the -- that every class
17 member lost more profits than the amount of the
18 overcharge that Professor Economides would
19 calculate for them?

20 MS. MANIFOLD: Objection. 04:43:54

21 THE DEPONENT: No, I didn't say that they
22 all lost more than that. I said that it's a
23 conservative measure, that it's a floor. I
24 think at a -- at a minimum, they lost that much.

25 So it -- it's an -- if, in a but-for world -- well, 04:44:04

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1 it's -- let me put it this way. 04:44:10

2 In the but-for world, every developer
3 would have had two choices. It could have stuck to
4 buying exclusively from -- via Apple distribution
5 services, in which case their injury would be the 04:44:22
6 difference in commissions.

7 Or they could, you know, buy through
8 Apple and others. And I think they would -- if
9 they're going to choose the others and they would
10 find some other benefits other than commission 04:44:40
11 benefits from doing so, then I think their injury
12 is even higher from -- from the activity.

13 Likewise, I think they --
14 Professor Economides takes into account whether or
15 not they would have adjusted their price. And he 04:44:59
16 says, well -- I think correctly, that if -- they
17 had two options.

18 They could have either just taken the
19 difference in commissions and paid -- and charged
20 the same app price, in which case his measure is a 04:45:12
21 minimum amount of harm, or they could have decided
22 it's more profitable actually to -- given the lower
23 commission, lower app price will make even more
24 money by expanding sales, in which case they would
25 have lost even more. 04:45:28

1 So that's why I think the methodology 04:45:29
2 Professor Economides uses is offering a
3 conservative floor on the lost profits of every
4 developer.

5 Q. (By Mr. Swanson) Well, is it 04:45:41
6 conservative or is it inaccurate?

7 A. No, it's -- it's conservative. It -- it
8 established a uniform floor on the injury to each
9 class member.

10 Q. Well, as you indicated, 04:45:54
11 Professor Economides is doing something different
12 from you. He's calculating the damages of each
13 class member.

14 Shouldn't a calculation of damages
15 properly estimate the full amount of damages? 04:46:07

16 MR. LOPEZ: Objection.

17 THE DEPONENT: It seems to me very common
18 in antitrust cases to pick something that is
19 conservative. I -- I -- I've picked exactly the
20 same thing in cases involving individual plaintiffs 04:46:24
21 where it is, you know, too difficult to
22 persuasively establish exactly what the price
23 response would be and you just -- you adopt a
24 conservative assumption that prices wouldn't change
25 and then show what the injury would have been. 04:46:41

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1 So I think that is a perfectly 04:46:45
2 appropriate method myself.

3 Q. (By Mr. Swanson) Well, is this one of
4 those cases where it's two difficult to show what
5 each developer's actual lost profits would be? 04:46:54

6 A. I -- I don't -- it's not difficult to put
7 a floor on it. I think Professor Economides
8 correctly does so.

9 I think it would be more difficult to say
10 for each, you know, would you alter your price at 04:47:07
11 all. I mean, I think, no, given the evidence that
12 I talked about. So -- I mean, that basically is
13 his assumption.

14 But, you know, as -- as I mentioned, I --
15 I don't think there would be any pass-through here 04:47:26
16 because of the combination of the pricing tiers and
17 the -- the fact that there's -- there's economic
18 incentives not to pass on much of the commission
19 difference given low marginal costs.

20 Q. Well, if a developer brought their own 04:47:45
21 separate case, wouldn't they want to prove the full
22 extent of their damages, just as an economic
23 matter?

24 MR. LOPEZ: Objection.

25 THE DEPONENT: Well, so one, I don't 04:47:56

1 think they would be different for the reasons I 04:47:58
2 just mentioned. And two, to the extent you thought
3 there was some difference, I think it would be
4 difficult to establish in an antitrust case.

5 So as I say, I've been an expert for 04:48:19
6 individual firms and -- and other exclusive dealing
7 cases and have made the same kind of assumption
8 myself.

9 It's not -- not at all unusual because,
10 you know, on the one hand, you'd like to make sure 04:48:35
11 everything is compensated, but you have to prove it
12 in a way that's convincing. So often conservative
13 measures are used in order to calculate damages.

14 Q. (By Mr. Swanson) Well, how -- how
15 conservative is this -- is the approach that 04:48:55
16 Professor Economides is taking resulting in many
17 class members losing a percentage of the damages
18 they could prove up individually?

19 MR. LOPEZ: Objection.

20 THE DEPONENT: So I don't think so, no. 04:49:10
21 Because, as I mentioned, you know, I -- I think
22 for -- for this case, I'm assuming the pricing
23 tiers remain, unlike in the consumer class action.

24 So if you assume there's still 99 cent
25 price tiers, and you also take into the account the 04:49:26

1 incentives to pass a percentage-based commission 04:49:31
2 difference, in a market like this, given low
3 marginal costs, I think you would have to be a
4 very, very expensive app, like on the order of \$40
5 or more per app to -- for a firm to, you know, want 04:49:45
6 to change a pricing tier in response to a
7 15 percent commission change. So I think that
8 would be very unlikely to be the case, even if you
9 assumed that you could prove it.

10 Q. (By Mr. Swanson) Well -- well, how is 04:50:10
11 Professor Economides' approach conservative if an
12 individual developer would use the same approach
13 and not claim or be able to prove any higher
14 damages?

15 A. Well, conservative -- an individual 04:50:29
16 wouldn't be conservative, too, because there's --
17 you know, there -- there's a possibility they're
18 trying to prove this additional lost profits from
19 being able to adjust your prices. It's just very
20 hard to prove. So it's conservative to put that 04:50:45
21 possibility aside.

22 I'm just saying that not only is it
23 conservative whenever it applies, I just don't
24 think -- I think it's very unlikely to actually
25 come up. 04:50:58

1 Q. Are your opinions on classified impact 04:51:03
2 independent of Professor Economides' opinions on
3 developer damages?

4 A. Yes.

5 Q. Are -- are your opinions on classwide 04:51:12
6 impact based on different evidence or reasoning
7 than Professor Economides' opinions?

8 A. Well, there are some parts in which I
9 cite things from Professor Economides, but I think
10 mainly for certain portions of the market 04:51:26
11 definition.

12 But ultimately, my conclusions on market
13 definition don't depend on Professor Economides.
14 And none of my conclusions on classwide effect on
15 Apple -- Apple's commissions are dependent upon 04:51:42
16 Professor Economides' conclusions.

17 Q. If Professor Economides' opinions on
18 damages are wrong, are your opinions still valid?

19 A. Yes. I think nothing that I say that
20 would not continue to be true. I mean, I do make 04:52:03
21 one conditional opinion. It depends upon his
22 analysis being reliable.

23 So if, in your hypothetical, the portion
24 of his opinions that are wrong includes the part
25 that I used there, then the condition would no 04:52:17

1 longer apply. But nothing would change in terms 04:52:20
2 of what my conclusion was, which was, if that's
3 reliable, it's yet another piece of
4 strong evidence -- actually independently strong
5 evidence to prove market definition. 04:52:35

6 Q. Have you made any calculation or
7 computation of damages for the class, or any member
8 thereof?

9 A. No.

10 MR. LOPEZ: We've been going about an 04:52:46
11 hour, Mr. Swanson.

12 MR. SWANSON: Why don't we take a break.

13 MR. LOPEZ: Ten minutes?

14 MR. SWANSON: Ten minutes.

15 MR. LOPEZ: Great. Thank you. 04:52:54

16 THE VIDEOGRAPHER: Going off the record
17 at 4:52 p.m. This is the end of media 5.

18 (Recess taken.)

19 THE VIDEOGRAPHER: We're on the record at
20 5:05 p.m. This is the beginning of media 6 in the 05:05:40
21 deposition of Einer Elhauge.

22 Q. (By Mr. Swanson) All right, Professor.

23 We spoke earlier about
24 Professor Economides' yardstick analyses.

25 Do you -- do you recall his -- his 05:06:02

1 yardstick opinions? 05:06:05

2 Is that a "yes," or are you looking at
3 something?

4 A. I don't have my microphone in front of me
5 so I can't hear what you said. 05:06:24

6 Q. Oh, okay. There we go.

7 A. Yes.

8 Q. Okay. Have you identified any different
9 yardsticks than Professor Economides'?

10 A. No. 05:06:35

11 Q. Okay. And you also referenced in your
12 report a yardstick -- or a but-for yardstick
13 calculation by Dr. Evans.

14 Have you identified any yardsticks that
15 Dr. Evans hasn't identified? 05:06:50

16 MR. SWANSON: What's that?

17 THE COURT REPORTER: I'm sorry. What was
18 that? Was that an objection?

19 MR. SWANSON: I'm assuming that was an
20 objection. 05:07:09

21 THE DEPONENT: Okay. So I -- I was just
22 stumbling over the word "yardstick" because that
23 would mean -- I usually think of that as when you
24 use a different market, and I thought
25 Professor Evans was a but-for analysis in this 05:07:17

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1 market. 05:07:20

2 So I don't remember him using a yardstick
3 of a different market. Perhaps I've forgotten it.

4 But -- but, yes, I -- Professor Evans
5 uses a but-for yardstick, but-for metric -- metric 05:07:31

6 as well. And Professor Economides uses a but-for
7 benchmark. And I did not identify a separate
8 but-for benchmark from the ones that they did.

9 Q. (By Mr. Swanson) Okay. Do you have an
10 opinion as to whether Donald Cameron was injured as 05:07:49
11 a result of Apple's alleged conduct?

12 A. Yes. He was a member of the class. So,
13 therefore, I concluded he was injured.

14 Q. Okay. Do you have an opinion as to when
15 he was first injured? 05:08:00

16 A. I would have to go look at his
17 transactional data, I think, to see.

18 Q. Do you have an opinion as to whether
19 Pure Sweat, the other named plaintiff, was injured
20 as a result of Apple's alleged conduct? 05:08:16

21 A. Yes.

22 Q. And what's your opinion?

23 A. That if he's a member of the class, he
24 would have been injured, since 100 percent were
25 injured. 05:08:26

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1 Q. Okay. And when was Pure Sweat first 05:08:27
2 injured, in your opinion?

3 A. I -- I don't know exactly when his
4 transactions occurred either. I'd have to look at
5 his -- the database. 05:08:38

6 Q. Would Pure Sweat have been injured before
7 the time of its first transactions when it was
8 offering a free app with no in-app purchase?

9 A. I suppose it's possible. It wouldn't be
10 injury by the metric that I use to establish 05:09:02
11 100 percent injury, but might have been harmed by
12 the lack of choice and inability to choose multiple
13 app distributors.

14 Q. Did that injury -- is that injury
15 compensable in money? 05:09:20

16 Is -- is it something you can, as an
17 economist, estimate in dollar terms?

18 A. I -- I haven't investigated it. But as I
19 sit here today, I don't have a method to do that.
20 It's not the method that I use. I -- I focused on 05:09:32
21 the commission difference.

22 Q. Do you know if Professor Economides is
23 calculating any damage for any such injury, if it
24 exists?

25 MR. LOPEZ: Objection. Form. 05:09:45

1 THE DEPONENT: I -- I don't know whether 05:09:50
2 he is. I was just answering your question, whether
3 they could have been injured before. Yes, they
4 could be, but that's not the method I used.

5 Q. (By Mr. Swanson) Okay. So you don't 05:09:57
6 have an opinion on that, whether Pure Sweat was
7 injured for its first paid in-app purchase?

8 A. I don't. I haven't investigated that
9 question.

10 Q. Do you have an opinion as to how 05:10:10
11 Mr. Cameron would have distributed his app in the
12 but-for world?

13 MR. LOPEZ: Objection.

14 THE DEPONENT: I don't have an opinion
15 how he specifically would have distributed his own 05:10:23
16 app.

17 Q. (By Mr. Swanson) Do you have an opinion
18 as to whether Mr. Cameron likely would have used
19 the App Store as his only iOS distribution channel?

20 A. I don't know. Either way he would have 05:10:36
21 been injured, so I didn't break that down.

22 Q. Do you have an opinion as to whether
23 Mr. Cameron would have self-distributed his app?

24 MR. LOPEZ: Objection.

25 THE DEPONENT: If he would have, then his 05:10:50

1 injury would be even greater than I'm assuming. 05:10:52

2 Q. (By Mr. Swanson) Do you have --

3 A. Again, I haven't reached an opinion about
4 what exactly he would have done.

5 Q. Okay. Do you have an understanding as to 05:11:01
6 whether he self-distributed the content of his app
7 in the actual world?

8 A. I do not.

9 MR. LOPEZ: Objection.

10 Q. (By Mr. Swanson) Are you familiar with 05:11:14
11 the economic concept of passing through cost
12 changes or passing on sometimes referred to?

13 A. Yes.

14 Q. Okay. What's your understanding?

15 A. Well, I think the understanding is that 05:11:27
16 sometimes an increase in costs, such as from an
17 overcharge, might get passed on downstream in some
18 markets.

19 Q. Okay. And when, in that sense, someone
20 passes on a cost increase, do their profits 05:11:51
21 increase, typically?

22 A. Do their profits increase?

23 MR. LOPEZ: Objection. Form.

24 THE DEPONENT: Well, I think they're --

25 they're -- they're still harmed. I don't know what 05:12:08

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1 you mean by "do their profits." 05:12:10

2 No, I've -- I've -- the -- the fact that
3 you may have passed something through doesn't alter
4 the fact that your profits went down. And in -- in
5 this particular case, if you -- they changed their 05:12:23
6 price would have -- would have changed their price
7 in a but-for world, that actually indicates even
8 greater anticompetitive harm for reasons we've
9 discussed.

10 Q. (By Mr. Swanson) Well, I'm -- I'm just 05:12:35
11 asking now, generally, in terms of economic theory.
12 So let's say a variable cost increases for a
13 company.

14 What are the other circumstances under
15 which it will change the price of its product as a 05:12:51
16 result of that variable cost change?

17 A. It'll -- it'll depend upon, you know,
18 its -- you have to figure out what its
19 profit-maximizing price is with the two cost points
20 in order to figure out what, if any, portion of 05:13:12
21 that increase in cost gets passed on.

22 Q. And suppose that its profit-maximizing
23 decision is to pass on some of that cost increase.

24 What does that do to that entity's
25 profits? 05:13:36

1 MR. LOPEZ: Objection. 05:13:42

2 THE DEPONENT: It will have two effects.

3 It's -- it's passing some of it on. It's

4 reducing its volume of sales. And, thus, losing

5 additional profits, although it's passing on some 05:13:55

6 of the overcharge on the unchanged portion of their

7 sales.

8 So -- but if they -- if they find it more

9 profitable to pass through, then I think

10 Professor Economides is right, that their injury 05:14:17

11 would be even higher than the raw overcharge.

12 Q. (By Mr. Swanson) Again, I'm talking

13 about economic theory in general. So I understand

14 you want to take it back to this case, which is

15 fine. We'll certainly do that. But I'm -- I'm 05:14:27

16 focusing on economic theory.

17 So does economic theory predict that

18 after a cost increase, a company's profits will be

19 higher, lower, or the same after it passes -- makes

20 its passing-through decision? 05:14:49

21 MR. LOPEZ: Objection.

22 MS. MANIFOLD: Objection.

23 THE DEPONENT: Its profit will be less

24 because...

25 Q. (By Mr. Swanson) Are there circumstances 05:14:55

1 where its profit will be the same? 05:14:56

2 A. I don't think so. Even if it passes
3 through 100 percent, which I think is very
4 implausible, the price is now higher. It's just
5 selling less quantity. 05:15:13

6 So everybody is injured even -- even
7 whether pass-through is 0 percent to 100 percent,
8 there's still the fact of injury to everybody in
9 that market who pays the overcharge.

10 Q. And -- and my question was about profits. 05:15:31

11 So you're saying that there is no
12 possibility, in theory, that a company could pass
13 on a cost increase and thereby maintain its
14 profitability at the same level?

15 MS. MANIFOLD: Objection. 05:15:47

16 THE DEPONENT: I don't think so because
17 it would -- it would have less quantity. So lose
18 profits for whatever, you know. It might be able
19 to maintain the same profit markup, I guess, a
20 markup per unit. But it would sell fewer units, 05:16:00
21 therefore, its prices and its profits would go
22 down.

23 Q. (By Mr. Swanson) And -- and, again, just
24 looking at this from the standpoint of abstract
25 economic theory, if a company's variable costs go 05:16:10

1 down, under what circumstances would pass through 05:16:15
2 that cost reduction?

3 MR. LOPEZ: Objection.

4 THE DEPONENT: I think it's -- it's just
5 the same formula in reverse, only now you're going 05:16:25
6 down that way. But the difference, I think, would
7 be the same.

8 Q. (By Mr. Swanson) All right. And -- and
9 under what circumstances would the company reduce
10 its price -- when would it be profit maximizing for 05:16:38
11 it to reduce its price?

12 A. Well, I mean, I think it all depends on
13 the particular profit function in a particular
14 market and the way in which these marginal costs
15 are -- you know, are they flat, are they 05:16:56
16 percentage-based, as in this case. Do they have
17 pricing tiers, as in this case. So maybe you need
18 to specify more about your hypothetical.

19 I mean, I did the analysis thinking the
20 actual circumstances of this case. And I guess if 05:17:14
21 it wasn't this case, you'd have to think about what
22 exactly you're going to specify by all these other
23 factors.

24 Q. If there was an increase in the
25 commission charged to app developers, in your 05:17:31

1 opinion, would that lead some developers to raise 05:17:35
2 the price of apps and in-app products?

3 A. Well, my opinion is that -- as I offered
4 in the report, is just that they would suffer an
5 injury whether or not they would pass on anything 05:17:49
6 between zero to 100 percent of that. If they pass
7 on none of it, clearly they're injured by the
8 overcharge. If they would pass on it 100 percent,
9 they're injured by reduced profits because they
10 lose quantity. 05:18:04

11 But if you wanted to ask me, do I also
12 think they're likely to pass it on, no, for the
13 reasons I mentioned before, which is because the
14 cost increase here would not be a -- sort of a flat
15 increase in marginal cost, but rather in a 05:18:24
16 percentage-based commission, when you -- when you
17 work through the -- what the -- that means for the
18 economics, it means that the -- the -- the
19 pass-through is going to be proportional to the
20 marginal costs, which are very low in this 05:18:39
21 particular industry.

22 So it would be a low percentage
23 pass-through. And when you combine that with the
24 pricing tier, my opinion is they're very unlikely
25 to pass it through. 05:18:51

1 Q. You agree that it's a theoretical 05:18:55
2 possibility that a developer might pass on a
3 portion of the commission increase to consumers in
4 the form of higher app prices?

5 MR. LOPEZ: Objection. 05:19:04

6 Q. (By Mr. Swanson) Is that correct?

7 A. Well, the opinion I offer is that the --
8 the -- that there's the fact of injury regardless.

9 I think it's unlikely. But there is a
10 theoretical possibility that if their marginal 05:19:15
11 costs were unusually high and their app prices were
12 unusually high, maybe some of them would pass it on
13 despite the basic economics of percentage-based
14 commissions and the -- the -- the price tiering.
15 But it seems quite unlikely to me. 05:19:39

16 Q. Well, is it your opinion that 100 percent
17 of class members in the but-for world would not
18 lower their app prices or in-app product prices
19 compared to the actual world?

20 MS. MANIFOLD: Objection. 05:20:02

21 THE DEPONENT: No. It's -- the opinion I
22 offer is just that 100 percent of them were injured
23 regardless of the extent to which they would do so.

24 As I've already said, if you pass on
25 100 percent of it, they're still injured because 05:20:11

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1 they have a lower quantity. So it was not 05:20:14
2 necessary for me to reach any calculation about how
3 many might have had some pass-through.

4 I also think, for reasons mentioned by
5 Professor Economides, that if they would pass 05:20:26
6 through their injuries -- even higher, actually.
7 So he's got a good conservative floor using his
8 method. But I also say I -- I don't know of
9 anybody who would have passed through, given the
10 evidence I have seen in the pricing tiers. 05:20:41

11 Maybe there is some conceivable case.
12 We'd have to work through their particular marginal
13 cost, their particular price structure, and figure
14 out what their given -- the -- the
15 profit-maximizing function -- would there be 05:20:57
16 pass-through despite the pricing tiers.

17 Q. (By Mr. Swanson) Well, I mean, I
18 understand your opinion on impact. But I'd like to
19 test that by understanding whether you have an
20 opinion on what percentage of app transactions, 05:21:14
21 whether paid downloads or in-app purchases, would
22 have been at a lower price in the but-for world.

23 Are you saying most of them would have
24 been at the same price --

25	MS. MANIFOLD: Objection.	05:21:36
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1 Q. (By Mr. Swanson) -- or do you just not 05:21:37
2 have an opinion?

3 A. So -- I mean -- but then your premise was
4 that this would test it. And what -- what I'm
5 saying, my opinion is this is actually not a test 05:21:44
6 of whether there were uniform injury regardless
7 of -- whatever you assume about the pass-through
8 rate, anything from zero to 100 percent, you know,
9 the whole range of possibilities, it's still
10 100 percent injury to everybody. And 05:21:58
11 Professor Economides still has a conservative
12 measure of the amount of damages to everybody.

13 But if you want me to answer the question
14 even though it's irrelevant to classify damage --
15 injuries and the minimum amount of damages, I would 05:22:10
16 say very few class members would pass on some of
17 this, given the combination of percentage-based
18 commissions, low marginal costs and these pricing
19 tiers.

20 I have not quantified just how few. I'm 05:22:28
21 not even sure there are any. I haven't seen
22 somebody who would fit the bill that could go
23 through -- could go through a calculation and say,
24 oh, yeah, for them, it would be -- it would be
25 worth changing the pricing tier. But I just think 05:22:41

1 it would be very unlikely. 05:22:46

2 Q. Is it -- is it your opinion then that
3 Apple's conduct that you consider to be
4 anticompetitive adversely affected the developer's
5 side of the market, but not the consumer side of
6 the market? 05:23:03

7 MS. MANIFOLD: Objection.

8 THE DEPONENT: Oh, not at all. I have a
9 whole section about how it harms the consumer side
10 of the market. Even if there's no pass-through, as 05:23:11
11 I explain, it would reduce consumer choice, which
12 itself is a harm. It would reduce, you know,
13 the -- the -- the quality of apps that they see in
14 the marketplace, you know, regardless.

15 And if there's any pass-through, that's 05:23:31
16 just even more injury. But the -- as I say in my
17 last section, it doesn't at all -- like none of my
18 conclusions depend upon any pass-through to
19 consumers.

20 Q. (By Mr. Swanson) So in your view, 05:23:43
21 consumers have less choice in the but-for world,
22 but all prices are essentially the same for all the
23 same apps and in-app products; is that correct?

24 MS. MANIFOLD: Objection.

25 THE DEPONENT: I -- I -- I think almost 05:23:57

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1 all prices for apps would be the same. But the 05:24:00
2 quality would be adversely affected because the
3 developers are lowering -- again, it's lower rate
4 of return on the apps and that that's an injury to
5 the consumers as well. 05:24:13

6 Q. (By Mr. Swanson) So in your opinion, all
7 consumers in the but-for world would be injured
8 because in the -- I'm sorry.

9 In your opinion, all consumers would be
10 injured because in the but-for world all apps and 05:24:28
11 in-app products would be higher quality, but they
12 would be exactly the same prices they are in the
13 actual world?

14 A. Well, I -- I don't offer an opinion about
15 whether they would be injured or not, you know. 05:24:41
16 In -- in their case, they have a totally different
17 premise, which is the pricing tiers would go away.
18 And if you don't have the pricing tiers, then even
19 though it's a small pass-through, you know,
20 incentive, it would -- it would happen, and I 05:24:55
21 think, you know, that Professor McFadden
22 calculates. So they've got their own theory.

23 But I'm just saying, based upon the
24 anticompetitive conduct alleged in this case, it
25 would harm them all regardless of whether it had 05:25:07

1 any effect on their prices. And, you know, none of 05:25:11
2 my conclusions in my report depend upon anything
3 about the pass-through rate.

4 The higher the pass-through rate, there
5 even -- there's an additional harm to consumers of 05:25:21
6 higher prices. But even with zero pass-through
7 rate, they're injured by reducing, you know, the
8 quantity and quality of apps and reducing
9 their consumer choice.

10 So my approach, you know, is -- basically 05:25:36
11 shows anything from zero to 100 percent
12 pass-through harms both all the developers and all
13 the consumers, which is I -- I feel all I have
14 to -- I need to reach my conclusions that there was
15 classified injury and -- as well as anticompetitive 05:25:56
16 harm to both sides of the market.

17 Q. Where -- where do you find the basis for
18 your assumption that the developers are not
19 challenging the 99 cent price tiers?

20 A. Oh, the developers are not. I didn't see 05:26:12
21 any challenge by the developers to the 99 cent
22 price tiers in the complaint.

23 So as far as I'm aware, they're not being
24 challenged and -- so I was assuming that they would
25 exist in the but-for world. 05:26:28

1 Did I -- let's see, I have some sort of 05:26:34
2 footnote that discusses that. Maybe -- let's see
3 if I -- I don't know where it is, but...

4 Q. Well, if -- if you're wrong and it is in
5 the complaint, do you need to assume in the but-for 05:26:47
6 world that the 99 cent price tiers are absent?

7 MR. LOPEZ: Objection.

8 MS. MANIFOLD: Objection.

9 THE DEPONENT: Do I need to assume in the
10 but -- I don't assume that in the but-for world. 05:26:59
11 My -- my analysis doesn't depend any -- either way
12 whatever the pass-through is.

13 The only reason I'm -- I discuss the
14 99 cent price tiers is to say, if -- if you thought
15 there was some pass-through and that the amount of 05:27:15
16 pass-through mattered, which I don't think does to
17 classified injury, then the existence of pricing
18 tiers in the but-for world would affect the extent
19 of pass-through that you would see.

20 Q. (By Mr. Swanson) Well, isn't -- aren't 05:27:27
21 the 99 cent tiers now a critical assumption of
22 yours for the but-for world to support your view
23 that there is no pass-through?

24 MS. MANIFOLD: Objection.

25 THE DEPONENT: No, that's the opposite of 05:27:39

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1 what I said. 05:27:40

2 I -- I -- I said that whatever the
3 pass-through rate is, zero to 100 percent, all
4 developers are injured in the class. Consumers are
5 also injured. So nothing depends on pass-through. 05:27:53

6 The minimum damages that
7 Professor Economides calculates do not depend on
8 the pass-through rate, if you assume more
9 pass-throughs and even more injury. If you ignore
10 both those facts and those economic realities and 05:28:06
11 nonetheless want to know how often there would be
12 some pass-through, then you would have to ask about
13 the pricing tier.

14 And, you know, as far as I'm aware, the
15 developers are not challenging the pricing tier, 05:28:22
16 whether it's -- I don't know -- in the complaint or
17 not now, I -- I don't know. I -- I certainly -- I
18 don't recall anything in the class cert brief about
19 it either.

20 So at any rate, my understanding is it's 05:28:33
21 not being challenged. But to that subsidiary
22 issue, that you only reach if you ignore the first
23 two more important points, then you'd have to know
24 is there a pricing tier or not in order to figure
25 out how many developers might pass through some 05:28:51

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1 portion. 05:28:53

2 Q. (By Mr. Swanson) Is it your opinion that
3 the price tiers are not anticompetitive?

4 MS. MANIFOLD: Objection.

5 THE DEPONENT: I -- I haven't 05:29:02

6 independently analyzed that, you know. A lot of
7 markets have price tiers. Sometimes they're not
8 anticompetitively imposed. You know, what the net
9 effects of Apple's price tier to tier, I don't
10 know. I haven't investigated that since I didn't 05:29:21
11 think it was part of the developer's allegations.

12 Q. (By Mr. Swanson) Well, if it is part of
13 the developer's allegations, do you have an opinion
14 that supports a claim that the price tiers are
15 anticompetitive? 05:29:37

16 MS. MANIFOLD: Objection.

17 THE DEPONENT: I -- I mean, it's a
18 restraint on pricing. But, you know, I -- I'd --
19 I'd have to do more work to see what -- what would
20 but-for prices have looked like and -- without the 05:29:54
21 pricing tiers. And I just haven't investigated
22 that issue to determine whether the pricing tiers
23 would be expected to have a net anticompetitive
24 effect on pricing.

25 Q. (By Mr. Swanson) Do you agree that 05:30:14

1 economic logic and the evidence in this case 05:30:15
2 suggest that we should expect a modest amount of
3 entry into the iOS app distribution market in the
4 but-for world?

5 A. Yeah. I only -- I mean, I'm -- I'm 05:30:29
6 thinking maybe five firms is what I think is
7 likely, which I would say -- you know, that's
8 relatively modest. It's not a huge number. I'm
9 not saying there's going to be 10 or 20 major
10 distributors. 05:30:43

11 Q. How firm is your opinion that there would
12 be five entrants in the but-for world?

13 A. I think that's likely. As I say in my
14 analysis, there is five very prominent likely
15 candidates and there would be very high profits. 05:31:03
16 There would be a lot of incentive thus to enter
17 into the market.

18 So that -- that -- my prediction is that
19 they -- they would end up entering. So we would
20 end up with, you know, like six distributors in 05:31:15
21 this market, which corresponds to the number of
22 distributors that we see for the macOS market and
23 the -- the Windows distribution market.

24 Q. Do you agree that if only one firm were
25 to enter the iOS app distribution market in the 05:31:33

1 but-for world, 35 percent is the single entrant 05:31:36
2 market share that is best supported by the
3 evidence?

4 A. I haven't investigated that. I mean, I
5 understand some of the models look at single -- 05:31:46
6 single entry or two entrants -- I -- I can't
7 remember -- as a conservative assumption. But I --
8 I haven't myself determined what the market share
9 would be with a limited number of entrants.

10 Q. Do you have any opinion as to what 05:32:08
11 Apple's App Store's market share would be in the
12 but-for world?

13 A. I don't. I don't have an opinion on
14 that.

15 Q. So you have no opinion in -- as to 05:32:22
16 whether it would be more or less than 65 percent?

17 A. I do not.

18 Q. Based on economic logic and the evidence
19 in this case, would it be correct, in your opinion,
20 to assume that all firms in the iOS app 05:32:39
21 distribution market in the but-for world would
22 charge the same commission rate to developers?

23 A. No.

24 Q. And why not?

25 A. Well, I think probably the reason I talk 05:32:57

1 about the oligopoly pricing is hard to maintain in 05:32:59
2 this market because the products are very
3 differentiated -- the distributors are
4 differentiated and a lot of the pricing is not
5 transparent. And, in fact, in other competitive 05:33:13
6 markets for app distribution, we don't see,
7 you know, parallel pricing.

8 Q. Let me ask you to turn to page 196 of
9 your report and paragraph 384.

10 Let me know when you are there. 05:33:54

11 A. I'm there, yeah.

12 Q. Okay. You state that "Charging less than
13 a 15% commission for some transactions is clearly
14 plausible given the several other app distributors
15 already do so." 05:34:06

16 And then you have a variety of bullets
17 there, which I'll go through in a moment.

18 But is, in your opinion, what is
19 plausible for the but-for world in this case
20 measured by looking at the markets that you 05:34:24
21 consider these entities to operate in?

22 A. I -- I mean, to figure out what's
23 plausible, the whole section has evidence besides
24 them. It's Apple itself's marginal costs. So it's
25 plausible to charge more than your marginal costs. 05:34:45

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1 So I'm just trying to rebut the claim 05:34:48
2 that, oh, you can never charge less than
3 15 percent. It wouldn't be profitable.

4	And then these other markets, it's not so	
5	much that the market is the benchmark. It's just	05:34:59
6	that these distributors found it profitable to	
7	offer a profit -- a commission rate like this. So	
8	they must have found it profitable as well. So	
9	it's profitable enough to be plausible as a but-for	
10	price.	05:35:18

Q. So looking first at Epic Games Store, you
note that Epic Games Store charges at most
12 percent commission for any transaction.

14 Do you consider the Epic Games Store an
15 appropriate yardstick for the commission or 05:35:35
16 commissions Apple would charge in the but-for
17 world?

A. I -- I'm not using it as a yardstick here. So I haven't second-guessed or, you know, tried to independently validate the yardstick that Professor Economides uses.

05:35:50

22 So I think for app -- I wouldn't say --
23 for a yardstick is usually a yardstick market
24 rather than an individual firm. So that seems to
25 me the Windows app distribution market does seem 05:36:04

1 like a -- a better yardstick. But you want to 05:36:08
2 consider all distributors in that market rather
3 than just one producer.

4 Here -- here I'm saying it just in the
5 fact that charging less than 15 percent has been 05:36:18
6 profitable for some firms and, thus, is clearly a
7 plausible price for Apple to have for its low tier.

8 Q. Is the Windows market that you're
9 referring to a two-sided transaction market?

10 A. Yes. 05:36:41

11 Q. And so only two-sided platforms can
12 compete in that market for transactions, correct?

13 A. I believe so, yes.

14 Q. Okay. So self-distribution in that
15 market is not a competitor of a two-sided platform 05:36:59
16 like Epic Games?

17 A. Well, I'm sorry. Say that question
18 again.

19 Q. I said, so self-distribution is not a
20 competitor of a two-sided platform like the 05:37:17
21 Epic Games Store.

22 Would you agree with that?

23 A. No, I think self-distribution is a
24 competitor and that their part of the market is
25 there would be self-distribution of iOS apps. 05:37:28

1 Q. Well, how is self-distribution two-sided 05:37:35
2 competition for transactions?

3 A. Well, it competes with two-sided -- it
4 competes with independent distributors, but there
5 the -- the transaction is being mediated by the 05:37:50
6 distributor themselves. But it's still affecting
7 both the distributor -- I mean, the app developer
8 and the consumer.

9 They're just providing distribution
10 themselves. But they would do so, in part, by 05:38:03
11 looking at the alternative of other methods of,
12 you know, doing transactions.

13 So I don't know. I have a Best Buy
14 credit card. It's offered by Best Buy itself. And
15 I bought something at Best Buy, that doesn't mean 05:38:24
16 that they're not in a credit card market and that
17 the -- their willingness to offer that and the
18 terms they offer aren't influenced by what
19 independent competing credit cards offer.

20 Q. Well, I'm -- I'm just trying to 05:38:37
21 understand your earlier testimony that only
22 two-sided transaction platforms can compete for
23 transactions with other two-sided platforms in a
24 transaction market.

25 Are you -- are you moderating that 05:38:51

1 opinion? 05:38:54

2 A. I guess if -- if you're -- if you meant
3 by that -- I didn't understand your meaning.

4 If you meant by that to exclude
5 self-distribution, yes, because my -- my market 05:39:01
6 definition clearly does include self-distribution
7 of iOS apps.

8 Q. Well, self-distribution is just a single
9 developer selling its products in its own store,
10 correct? 05:39:18

11 MR. LOPEZ: Objection.

12 THE DEPONENT: Well, yeah. And through
13 some form, whether it's one store or multiple,
14 you know, websites. It may depend on the
15 particular distributor. And some self-distribute, 05:39:30
16 but also distribute other people's as well, as like
17 the Epic Games Store.

18 Q. (By Mr. Swanson) Well, in that case, is
19 it only when a self-distributor offers its own
20 multisided platform that it's a competitor of a 05:39:49
21 two-sided transaction platform?

22 A. No, I don't think so. No.

23 Q. So you think single-sided competition
24 exists in two-sided transaction markets?

25 A. I -- I just disagree with your premise 05:40:10

1 that it's single-sided just because they're 05:40:12
2 doing -- providing the platform themselves.

3 Q. Well, what -- what do you consider --
4 what -- what's your definition of single-sided
5 competition? 05:40:21

6 A. Well, it's -- it's -- we're not in a
7 market where because of simultaneous transactions
8 one has to take into account the effects on both
9 sides. I think here you do have to take into
10 account affect on both developers and 'consumers of 05:40:41
11 Apple's anticompetitive exclusion and to properly
12 measure it.

13 I think you have to also take into
14 account that some of the competition they're
15 excluding would be in the form of self-distribution 05:40:54
16 in a --

17 Q. What --

18 A. -- but-for world, yeah.

19 Q. Yes.

20 What's your definition of a single-sided 05:41:02
21 competitor -- or feel free to give an example, if
22 you have one.

23 A. Well, I mean, I think the -- for example,
24 the sale of the app itself rather than the
25 distribution services, or the sale of a car is a 05:41:18

1 single-sided market. 05:41:27

2 But I -- it seems to me that the -- this
3 self-distribution is clearly a substitute for the
4 transactions that are provided by the App Store.

5 So since it substitutes for that transaction, you 05:41:42
6 would have to include it in the same market
7 definition.

8 Q. Are you saying that all
9 self-distribution -- all self-distribution is
10 accomplished through a multi-sided transaction 05:41:56
11 platform?

12 A. I'm not saying it's a substitute for it.
13 So if you're -- if we've defined a two-sided market
14 for app distribution, as I agree, along with all
15 the experts on both sides in the Epic case, one has 05:42:11
16 to consider all substitutes that constrain it. And
17 self-distribution of apps would be a -- a
18 constraint in the but-for world and, thus, should
19 be included.

20 Q. With respect to Epic Games, did the 05:42:29
21 Epic Games Store exist before 2018?

22 A. I don't know the year in which the
23 Epic Games Store was created.

24 Q. Do you know if the Epic Games Store has
25 ever been profitable? 05:42:49

1 A. I -- I don't know. 05:42:51

2 Q. Do you know if the commission rate that
3 Epic charges is below Epic's average total cost?

4 A. I -- I have not investigated that.

5 Q. Do you know if Epic charges a uniform 05:43:10
6 12 percent commission to all developers on the
7 Epic Games Store?

8 A. I think the source just said at -- at
9 most 12 percent. Whether they charge some
10 sometimes less, I don't know. 05:43:23

11 Q. Does Epic offer discounts?

12 A. On a commission? I -- I'm -- I'm not
13 positive. The commission they're charging -- yeah,
14 on -- on distribution -- particularly for others --
15 of course, for their own games, it's complicated by 05:43:42
16 the fact that they're gaining a price for the game
17 itself.

18 Q. And do you have an understanding as to
19 whether Epic offers minimum guarantee deals to
20 distributors? 05:43:58

21 A. I'm not aware of any evidence to support
22 that.

23 Q. In what market does the Epic Games Store
24 compete in?

25 A. They compete in the market for app 05:44:11

1 distribution in -- for the distribution of macOS 05:44:13
2 apps and for Windows apps.

3 Q. Are -- are -- are those two separate
4 markets?

5 A. Yes, I think so. 05:44:26

6 Q. And that's your opinion as an economist,
7 that they're completely separate markets?

8 A. For the app distribution, I think so,
9 yes.

10 Q. Does -- well, strike that. 05:44:41

11 You mention in paragraph 384, in the next
12 bullet, that Microsoft has announced that it will
13 "reduce its commission for Windows games to 12% in
14 August 2021."

15 A. Yeah, I think tomorrow, in fact. 05:44:58

16 Q. So what commission rate is in effect
17 today for Windows games?

18 A. For games today, I think it's 30 percent.

19 Q. Okay. Is a commission change that
20 Microsoft will implement for the first time 05:45:16
21 tomorrow an appropriate comparison for what Apple
22 might have done in the face of entry in 2015?

23 A. You -- you keep acting like this
24 paragraph -- or you keep mischaracterizing this
25 paragraph as a yardstick paragraph. 05:45:32

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1 This is a paragraph, as I said, that's 05:45:34
2 simply showing that it's plausible to charge below
3 15 percent. So the basis for saying Apple charges
4 below 15 percent is not a yardstick, based on this
5 paragraph. 05:45:45

6 This paragraph is just showing firms have
7 found it profitable and attractive to charge,
8 you know, lower commissions than 15 percent. So
9 it's plausible that -- that Apple would do so as
10 well. 05:46:00

11 Q. Well, Microsoft and Samsung have found it
12 plausible, and Google on the top of the next page,
13 have found it plausible to charge 30 percent
14 commissions, correct -- or profitable --

15 (Simultaneously speaking.) 05:46:20

16 THE DEPONENT: 7.5 percent, it says at
17 the top of the next page. I'm sorry.

18 Q. (By Mr. Swanson) You mean where the --
19 sorry.

20 Go ahead. 05:46:25

21 A. Oh, you know, higher math. I thought you
22 just said at the top of the next page it says
23 Google charged 30 percent.

24 I mean, I think that's their top rate.

25 But their lowest rate is 7-1/2 percent. 05:46:33

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1 Q. Right. 05:46:37

2 A. So for the purposes of this, we're just
3 saying it is plausible to charge less than
4 15 percent. That's the fact that is relevant to
5 this point. 05:46:43

6 Q. Well, is the fact that Google and Samsung
7 and Microsoft have all for many, many, many years
8 charged 30 percent make it plausible that Apple
9 would charge 30 percent in the but-for world?

10 A. Well, as I detail in the appendix, I 05:46:57
11 think the trouble is that the Android market is not
12 a good yardstick for that because it has
13 anticompetitively constrained itself through
14 different ways that -- and I think the commission
15 rates there would also be lower in the but-for 05:47:14
16 world, if they didn't use those anticompetitive
17 constraints.

18 So you can't use a yardstick that is
19 itself tainted by anticompetitive conduct.

20 Q. Well, do you agree that the Samsung 05:47:29
21 Galaxy Store charges a default 30 percent
22 commission rate?

23 A. I believe so. As I say here, sometimes
24 they charge less. So they -- they do vary. And
25 Samsung has been willing to basically individually 05:47:41

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1 negotiate, unlike Apple.

05:47:45

2 Q. Well, how many developers can you point
3 to who Samsung Galaxy Store has been willing to
4 individually negotiate with?

5 A. I -- I can't -- as I sit here today, I
6 know this example because it's right in front of
7 me. But I don't know the other example.

05:48:00

8 But clearly this indicates that at least
9 one example of individual negotiation, based upon
10 the app where the evidence shows that Apple never
11 did that, only negotiate -- only set different
12 tiers based upon, you know, the -- certain
13 categorical approaches. But never -- never by
14 individually negotiating with a particular
15 developer.

05:48:11

05:48:28

16 Q. Well, are you testifying that you're
17 aware of a second developer that Samsung has
18 negotiated a lower rate than 30 percent with?

19 A. I -- I can't recall right now. I -- I
20 thought there was more than one example. But there
21 is at least this one example, which my refreshed --
22 recollection is refreshed by seeing it right in
23 front of me. But I'd have to look through and see
24 if I can find another one. I can't recall right
25 now.

05:48:40

05:48:54

1 Q. You note here in paragraph 384 that 05:48:56
2 "Developers who use the Humble Bundle widget to
3 sell games effectively pay a 10% commission" rate.

4 Do you see that?

5 A. Yes. 05:49:08

6 Q. What is the Humble Bundle widget?

7 A. I don't recall exactly what this --
8 particular characteristics of that are. I was just
9 looking at it to see -- well, what if somebody was
10 charging a commission lower than 10 percent. But 05:49:29
11 I -- I don't know what's distinctive about the --
12 their distribution.

13 Q. When did the Humble Bundle widget first
14 become available?

15 A. I'm -- I'm not sure. 05:49:42

16 Q. Are you aware that developers with total
17 billings below \$250 receive nothing out of their
18 earnings from app sales from the Humble Bundle
19 widget?

20 MR. LOPEZ: Objection. 05:50:01

21 THE DEPONENT: I'm not aware of that, no.

22 Q. (By Mr. Swanson) Do you know how many
23 developers in the class have made \$250 or less in
24 sales of their apps or in-app products?

25 A. I -- I don't know -- have that statistic 05:50:16

1 in -- in my -- I -- I would have to look up that in 05:50:18
2 the data to calculate that statistic.

3 Q. You've -- you've looked at the data,
4 though.

5 You -- you know that's a substantial 05:50:27
6 proportion, don't you?

7 A. I know that a --

8 MR. LOPEZ: Objection.

9 THE DEPONENT: -- lot of the class
10 members don't sell that much in apps. But what the 05:50:37
11 exact quantity is, I -- I do not recall.

12 Q. (By Mr. Swanson) Now, I don't want to
13 refer to the number at the top of page 197, since I
14 believe that is confidential. We have some folks
15 who are not entitled to learn that. 05:50:59

16 But referring to that part of your
17 report, do you know how many developers that
18 particular level applies to?

19 A. I don't.

20 Q. Do you know how many commission tiers 05:51:26
21 Google has?

22 A. I can't recall, as I sit here today.

23 Q. Is it more than two?

24 A. I don't know. I'm -- I'm not sure.

25 Q. Would you expect that Google would be 05:51:42

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1 like Apple in only having two commission tiers? 05:51:44

2 MR. LOPEZ: Objection.

3 THE DEPONENT: I -- I don't know. I have
4 not -- I don't recall what their commission tiers
5 were. And I don't have any particular expectation 05:51:58
6 about what they would be.

7 Q. (By Mr. Swanson) Well, it's your opinion
8 that it is profit-maximizing for Apple to have two
9 tiers in the actual world and in the but-for world,
10 correct? 05:52:09

11 A. Yes.

12 Q. Is there some reason why you would expect
13 that Google would have a different number of
14 commission tiers?

15 MR. LOPEZ: Object to the form. 05:52:21

16 THE DEPONENT: Well, I -- Apple -- for
17 Apple, I've investigated and they have a very
18 consistent policy based upon particular grounds and
19 so the -- and I conclude there's nothing about the
20 but-for world which would result in those basic 05:52:33
21 policy decisions being different. I haven't
22 investigated the same thing in Google Play Store.
23 So I wouldn't venture an opinion about it.

24 Q. (By Mr. Swanson) Are you familiar with
25 the Discord store? 05:52:49

1 A. The Discord store? 05:52:54

2 Q. Yes.

3 A. I don't think so.

4 How are you spelling that?

5 Q. D-I-S-C-O-R-D. 05:53:01

6 A. No, I'm not -- I don't think so.

7 Q. Have you heard of that before?

8 A. Not that I can recall.

9 MR. SWANSON: Okay. Have -- well, are we

10 at an hour at this point? 05:53:17

11 Mr. Lopez is my reliable timekeeper.

12 MR. LOPEZ: Not quite. But if you want

13 to take a break now, I think we're probably nearing

14 about six hours total.

15 MR. SWANSON: Okay. Yeah. That would be 05:53:28

16 a -- that would actually be a decent time to take a

17 break.

18 THE VIDEOGRAPHER: So we are going off

19 the record at 5:53 p.m. This is the end of

20 media 6. 05:53:35

21 (Recess taken.)

22 THE VIDEOGRAPHER: We are back on the

23 record at 6:06 p.m.

24 This is the beginning of media 7 in the

25 deposition of Einer Elhauge. 06:06:35

1 Q. (By Mr. Swanson) Professor, do you agree 06:06:39
2 that as a matter of antitrust economics a company
3 should generally not be required to assist its
4 competitors?

5 MR. LOPEZ: Objection to form. 06:06:48
6 Also calls for a legal conclusion.

7 THE DEPONENT: I -- I think -- I don't
8 know. I can't recall any -- it does sound like
9 more of a legal question than an antitrust
10 economics question that it should be required to do 06:07:05
11 something.

12 I think -- I think what antitrust
13 economics could tell you is what the effects would
14 be of certain kinds of requirements and so -- and a
15 lot may turn on what you're defining as assistance. 06:07:17
16 Like is not cutting somebody off from supply
17 assisting them.

18 So I think I need to know more -- more
19 clarification about your question to be able to
20 answer it and -- and -- and what normative premises 06:07:37
21 are in your word "should" in that sentence as well.

22 Q. (By Mr. Swanson) Well, what -- what are
23 the requirements for concluding, as a matter of
24 antitrust economics, that it would be welfare
25 improving for a firm to assist a rival? 06:07:54

1 A. What are you defining "assistance" to be 06:07:59

2 to a rival?

3	Q. Can you answer the question generally?
---	---

4 A. I --

5 MR. LOPEZ: Object to form. 06:08:07

6 THE DEPONENT: Not without clarification
7 of what "assistance" means. It's such a vague
8 term.

9	If assistance includes not charging	
10	predatory prices to them or, you know, as you	06:08:15
11	earlier suggested, it's -- it's assistance to	
12	license IP to somebody without exclusionary	
13	conditions, then I have a very different answer	
14	than if the assistance is instead, you know,	
15	sending people checks, or something like that.	06:08:30

16 So I think without clarification what
17 "assistance" means, I can't really answer your
18 question.

19 Q. (By Mr. Swanson) Well, what other
20 requirements for concluding, as a matter of 06:08:43
21 antitrust economics, that it would be welfare
22 enhancing for a firm to license intellectual
23 property to a rival?

24 A. Okay. So that's a particular conduct

25 and -- say the first part of the question. 06:08:56

1 MR. SWANSON: Let's have the 06:09:01
2 court reporter read it back. I'm getting a little
3 tired of rereading questions.

4 (Record read as follows:

5 "QUESTION: Well, what other 06:09:28
6 requirements for concluding, as a
7 matter of antitrust economics, that
8 it would be welfare enhancing for a
9 firm to license intellectual property
10 to a rival?") 06:09:28

11 MR. LOPEZ: Object to the form.

12 THE DEPONENT: I -- I didn't understand
13 that question.

14 So what other matters would conclude the
15 matter to -- I -- I have some conduct, but I don't 06:09:34
16 really have a -- I don't understand what the
17 question is about that conduct.

18 Q. (By Mr. Swanson) Then I will reread it.

19 What are the requirements for concluding,
20 as a matter of antitrust economics, that it would 06:09:45
21 be welfare enhancing for a firm to license
22 intellectual property to a rival?

23 MR. LOPEZ: Objection.

24 THE DEPONENT: Whether it would be
25 welfare enhancing. 06:09:58

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1 Well -- I mean, if we're limiting it to 06:10:00
2 that, the -- the effects of licensing a rival's
3 intellectual property would almost always
4 be welfare enhancing because you're disseminating
5 on intellectual property and, thus, allowing more 06:10:14
6 competition for it.

7 So, you know, there's ex ante effects of
8 not having protections might be problematic, but it
9 would always be welfare enhancing, once
10 intellectual property exists, to have it licensed. 06:10:29

11 Q. (By Mr. Swanson) Are you familiar with
12 the DOJ, FTC intellectual property guidelines?

13 A. Yes.

14 Q. And are you familiar with the guidelines
15 principle that the agencies ordinarily will not 06:10:44
16 require the owner of intellectual property to
17 create competition in its own technology?

18 A. I don't remember that particular phrase,
19 but I understand the -- the -- the policy stated,
20 yeah. 06:11:04

21 Q. As an economist, do you agree with that
22 policy?

23 MR. LOPEZ: Objection.

24 THE DEPONENT: I think the intellectual
25 property right is correctly defined. Then, yes, 06:11:15

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1 the whole point is to give extra returns from the 06:11:19
2 intellectual property in order to incentivize the
3 creation -- the ex ante creation of the
4 intellectual property.

5 So there shouldn't be a general 06:11:34
6 obligation to use your IP rights to create
7 competition, but that's very different from saying
8 that you have a -- that the greater power to set a
9 price or -- nondiscriminatory price for your IP
10 includes the lesser power to condition it on 06:11:50
11 exclusivity constraints that eliminate competition
12 in related markets.

13 Q. (By Mr. Swanson) Is it your opinion that
14 a would-be iOS distributor could compete with
15 Apple absent access to Apple's intellectual 06:12:07
16 property?

17 MR. LOPEZ: Objection.

18 THE DEPONENT: I -- I don't have any --
19 we've already talked about I don't have any opinion
20 about the scope of other intellectual property. 06:12:17

21 I think it's a -- whatever the mech- --
22 the technical mechanism is, Apple is able to
23 condition access to its iOS devices -- developer
24 access to iOS devices on them satisfying these
25 exclusionary constraints. 06:12:41

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1 Whether it involves the exercise of 06:12:41
2 intellectual property or not wouldn't alter any of
3 my conclusions about that.

4 Q. (By Mr. Swanson) You're not assuming
5 that any of Apple's intellectual property rights 06:12:55
6 related to iOS or the iPhone or the app store
7 are invalid, are you?

8 A. I am not making the assumption about
9 that, no.

10 Q. In your but-for world, you indicate that 06:13:16
11 Apple could still determine, through App Review,
12 which apps to approve to run iOS, but any
13 approved app could be distributed by other app
14 distributors as well; is that a fair statement?

15 A. Yes. 06:13:34

16 Q. Is it your opinion that in the but-for
17 world, Apple could require that all iOS apps go
18 through Apple's App Review process before
19 distribution by any channel?

20 A. Yes. 06:13:48

21 Q. Okay. And in the but-for world, in your
22 opinion, if that were the case, would Apple charge
23 for reviewing apps distributed through stores,
24 other than the app store?

25 MR. LOPEZ: Objection. 06:14:03

1 THE DEPONENT: No. I think the -- the 06:14:05
2 App Review is to whether or not to approve it to
3 run on the iOS. It's not specific to the
4 distribution.

5 Q. (By Mr. Swanson) Well, in the but-for 06:14:15
6 world, some apps would run on iOS after being
7 distributed through Apple's App Store. Some would
8 run after being distributed through a nonApple
9 channel, correct?

10 A. Yeah. But the App Review in the but-for 06:14:32
11 world would simply be for whether or not the app
12 was approved to run iOS. It's not whether it's
13 approved for distribution. It's just it can't run
14 without approval by the App Review.

15 Q. And -- 06:14:44

16 A. So that -- that approval would apply --
17 the whole point is it would -- the approval would
18 be neutral to the method of distribution.

19 Q. And so would Apple review apps in the
20 same way that it does today in the but-for world? 06:14:59

21 MR. LOPEZ: Object to the form.

22 THE DEPONENT: It -- it could. I think
23 if that's the most efficient way of reviewing apps,
24 it could do so, with the exception that right now
25 the App Review includes review to make sure that 06:15:13

1 the exclusionary restraints are being complied 06:15:18
2 with.

3 So they could no longer say we're not
4 going to approve your app because you're not
5 exclusively distributing to us, not exclusively 06:15:26
6 allowing us to do the IAP transactions.

7 Q. (By Mr. Swanson) So if Apple were to
8 disapprove an app because it did not comply with
9 Apple's privacy guidelines, would it be, in your
10 view, possible for Apple in the but-for world to 06:15:46
11 reject that app even though the -- the developer
12 wished to have it distributed through a Google
13 iOS App Store which does not respect those privacy
14 rights?

15 A. Yeah. And I think the -- the App Review 06:16:03
16 would be about protecting the iOS device in the
17 environment -- iOS device environment. It's not
18 about the -- the distribution is how you get onto
19 it, but it would be neutral as to the method of
20 distribution. 06:16:20

21 So as long as it's the same privacy
22 principle being applied to all apps, regardless of
23 how they're distributed, then I think that is
24 neutral and would be a much better fit with their
25 alleged procompetitive justification of maintaining 06:16:37

1 a walled garden to preserve the quality of the 06:16:40
2 experience of using the iOS device.

3 Q. So if Apple, through App Review, in that
4 neutral sense that you've described, was to
5 effectively establish standards for what apps could 06:17:02
6 do with respect to privacy, in your opinion, would
7 Apple be able to prevent sideloading of apps that
8 did not comply with those privacy policies?

9 A. Yeah. I think it would be a lot like
10 what they already do now with macOS, where they 06:17:20
11 allow competing distributors and self-distribution.
12 But you still need to get approved to run on the
13 operating system.

14 Q. Well, it's your understanding that Apple
15 reviews apps for privacy issues on macOS? 06:17:33

16 A. Well, I don't know what they review them
17 for, but they review them. They've -- they have a
18 quality review, and I think they could review for
19 privacy if they wanted.

20 Let me see if my paragraph details... 06:17:47

21 So they -- well, they -- they scan the
22 apps for malicious content. Whether malicious
23 content is defined to include breaches of privacy,
24 I don't know. I'd have to investigate that
25 further. But it certainly could, if they wanted 06:18:10

1 to. 06:18:13

2 So all I'm saying is they have a method
3 to review apps for running on an OS, and it is
4 independent of whether there's exclusive
5 distribution. So it's clearly possible to separate 06:18:23
6 out the two.

7 Q. Is -- is it -- well, first of all, is it
8 your understanding on the Mac with macOS that Apple
9 reviews all macOS apps for -- for bugs?

10 MR. LOPEZ: Object to the form. 06:18:46

11 THE DEPONENT: I don't know what their --
12 all the stuff they're reviewing for. The stuff I
13 have quoted is -- the only specific example I cite
14 here is malicious content.

15 And as I said, I don't know exactly how 06:19:03
16 they're defining malicious content, whether that
17 would include bugs or not. And the -- so I -- I
18 don't know whether the mechanical automatic part of
19 the review that they use is different from that on
20 the App Store App Review, but it certainly could be 06:19:24
21 the same. There's no obstacle to it.

22 Q. (By Mr. Swanson) If in the but-for
23 world, Apple was reviewing apps for all apps that
24 would be available for distribution, whether or not
25 through the Apple App Store, in your view, could 06:19:47

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1 Apple impose a neutral fee for that, that applied 06:19:52
2 to every app?

3 A. I think so. And I think -- I mean, they
4 already do have this -- the flat fee part that they
5 charge the developers. 06:20:06

6 So I -- I think to the extent, you know,
7 they're -- they're trying to compensate for
8 App Review costs, maybe they could charge a
9 separate price for that in the but-for world,
10 although I guess I'd have to look more what -- what 06:20:22
11 do competitive markets do.

12 Like in the macOS market, I don't think
13 that they charge for the App Review there and
14 instead they profit by being able to charge more
15 for the operating system for their devices because 06:20:38
16 they're safer and sounder.

17 So I guess I'm not -- I'm not sure that
18 App Review would be something that would be
19 separately charged for in the but-for world or not.

20 Q. In the but-for world, would iOS devices 06:20:54
21 cost less than in the actual world or cost more?

22 Do you have an opinion?

23 A. What's that?

24 Q. In the but-for world, would there be any
25 change in the price of Apple iPhones and iPads 06:21:09

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1 compared to the actual world? 06:21:14

2 MR. LOPEZ: Objection.

3 THE DEPONENT: I don't -- I don't believe
4 so, no.

5 Q. (By Mr. Swanson) So you're not assuming 06:21:21
6 in the but-for world that Apple would recoup any
7 additional costs by raising the price of iOS
8 devices?

9 A. No. I -- I don't see what the additional
10 cost would be. They're -- that's they're 06:21:37
11 already doing the App Review now. It would be
12 somewhat less costly. They would no longer have to
13 review apps for compliance with these exclusivity
14 restraints. So that would actually lower the
15 implementation costs; they wouldn't increase them. 06:21:51

16 Q. But your opinion is that Apple would make
17 a great deal less in profits in the but-for world,
18 correct?

19 A. Well, it would make less profits on the
20 App Store, yes. 06:22:08

21 Q. Okay.

22 A. [REDACTED]

23 [REDACTED]

24 Q. And -- and you're assuming that there
25 will be no increase in device price in the but-for 06:22:16

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1 world, correct? 06:22:20

2 A. I don't think there would be. None of my
3 analysis depends upon an assumption that there
4 would be no in- -- change in price.

5 Q. So in -- in your but-for world, Apple's 06:22:30
6 reduction in profits in the App Store is a
7 reduction to the entire company's profitability,
8 correct?

9 MR. LOPEZ: Objection.

10 THE DEPONENT: Well, I mean, it's a 06:22:44
11 reduction in profits. And the company is one
12 entity, but it's -- it's a reduction in profits
13 from its App Store.

14 Q. (By Mr. Swanson) Well, you're not
15 claiming that Apple would have any other way to 06:22:54
16 recoup reduced profits in the but-for world, are
17 you?

18 A. I -- I don't know why you're assuming
19 some right to recoup anticompetitive -- lost
20 anticompetitive profits. I just -- any -- 06:23:08

21 Q. I'm -- I'm asking you -- I'm asking you a
22 factual, or at least a hypothetical question, about
23 a but-for world that you've constructed.

24 So if you can answer it, fine.

25 A. Well -- 06:23:21

1 Q. But if you can't, that's fine, too. 06:23:21

2 A. Well, you're using the word "recoup,"
3 though --

4 Q. Okay.

5 A. -- which implies some -- I -- I don't 06:23:27

6 know. There's no recoupment. There's just they
7 wouldn't make anticompetitive profits. That's the
8 whole point of banning anticompetitive conduct.

9 Q. Well, if you're bothered by the term
10 "recoupment," I can certainly use a neutral -- an 06:23:37
11 equivalent term.

12 In your opinion, is there any other means
13 that Apple could pursue in your but-for world to
14 earn some or all of the reduced profits in the
15 App Store that would accrue in the but-for world 06:24:03
16 compared to the actual world?

17 MR. LOPEZ: Objection.

18 THE DEPONENT: No, I -- I don't think so.
19 They'd -- they'd lose the anticompetitive profits.
20 You can't just make that up. In the other markets, 06:24:14

21 they have whatever profits they have, given their
22 level of market competition that they operate in.

23 And as I note in my report, this -- the
24 App Review cost is like [REDACTED] percent of their
25 marginal profits. So it's not like this -- the -- 06:24:30

1 that the -- that the -- the process of App Review 06:24:37
2 is really depending upon all these profits from the
3 App Store.

4 Q. (By Mr. Swanson) In -- in -- in your
5 opinion, would there be more output in the but-for 06:24:43
6 world?

7 A. Yes. I think that with lower commissions
8 there would be more investments in apps and, thus,
9 a greater quantity of apps made and distributed in
10 the iOS app market. 06:25:10

11 Q. And -- and in your but-for world, Apple
12 would be reviewing that greater quantity of apps?

13 A. Yes. And as I said, they could continue
14 to charge \$99 a year they already charge. And this
15 human review process is about 6 to 12 minutes an 06:25:32
16 app, so I don't -- I -- I don't see that as a
17 difficulty.

18 Q. Do you agree that there is no way to know
19 which specific companies would have entered the
20 iOS app distribution market by launching app 06:25:45
21 stores in the but-for world?

22 A. I think we can make judgments about
23 what's likely, and I identify who I think are the
24 five most likely -- that are five likely candidates
25 to have done so. 06:26:01

1 But, yeah, you can't be absolutely 06:26:02
2 certain about what would have happened in the
3 but-for world because you can't directly observe it
4 in the same kind of way you can observe, you know,
5 actual life. 06:26:14

6 Q. You indicate in your report that Epic,
7 Google, Amazon and Valve would be the most likely
8 to enter the iOS app distribution market in the
9 but-for world; is that correct?

10 A. Yeah. And I think -- Cydia, I think, was 06:26:30
11 the other one I mentioned.

12 Let's see.

13 Q. Would Cydia enter distribution of iOS
14 apps in a world where Apple reviews all apps?

15 A. Sure. I don't know why not. 06:26:51

16 Q. Well, isn't Cydia's business model to
17 carry a wide variety of apps that do not meet Apple
18 standards?

19 A. Well, they wouldn't be able to sell those
20 apps if they don't meet Apple standards. I -- and 06:27:07
21 I don't know if that's -- what would be their -- I
22 don't know if that's accurate.

23 But also, in the but-for world, it would
24 be a very different situation. In -- in the actual
25 world, they're restrained. And the only way for 06:27:19

1 them to distribute at all is on jailbroken phones, 06:27:20
2 iPhones.

3 So that, I think, forces them into a
4 certain kind of app distribution. But in the
5 but-for world, they'd be free to pick apps that 06:27:33
6 didn't have any problems and that met App Review.

7 Q. Do -- do you know if Cydia ever reached
8 out to Apple to ask for the ability to operate an
9 iOS App Store?

10 A. I don't know that they ever did, no. 06:27:55

11 Q. Do you know if Google ever made such a
12 request of Apple?

13 A. No, I don't know if they ever made such a
14 request.

15 Q. When do you think Google would have done 06:28:08
16 so in the but-for world?

17 MR. LOPEZ: Objection.

18 THE DEPONENT: Well, in a but-for world,
19 they wouldn't have to ask for permission. It would
20 be an unforeclosed market. 06:28:15

21 Q. (By Mr. Swanson) Well, this goes back to
22 something we talked about before.

23 But are you assuming that a distributor
24 of iOS apps can just sashay into that -- that
25 business without obtaining any type of license from 06:28:32

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1 Apple first? 06:28:34

2 A. Well, I mean, I think if they're going to
3 do it on the iOS device itself, they're going to
4 need an app on that device. So that's going to
5 have to get approved. 06:28:44

6 But if they're distributing it outside of
7 the iOS device, no, they wouldn't need that. They
8 would just distribute it outside the iOS device
9 and it could be copied and ported over into the
10 iOS device. 06:28:57

11 Q. And how -- how does the store sell -- is
12 it your assumption that in the but-for world
13 developers would put stores within the App Store?

14 A. Stores within the App Store?

15 Q. Yes. 06:29:16

16 A. Yeah. So if it's an app, I guess you
17 need some way to get it on. At first -- as with
18 the -- there was only -- the -- only App Store
19 comes with it right now.

20 So at first, you'd have -- to get there, 06:29:27
21 you'd have to get an app -- yes. Oh, maybe you
22 could bring it -- well, you might be able to get it
23 through a website, say, and then download it from
24 there without going to the App Store.

25 And maybe even on the -- a website 06:29:43

1 through Safari, I suppose, and just allow 06:29:45
2 installation in that way. But, you know, Apple
3 would have to allow that.

4 Q. Well, are -- are you assuming -- so
5 are -- you are assuming that in the but-for world 06:29:58
6 one of the five most likely iOS app stores would
7 be stores that are distributed through the
8 App Store?

9 A. I didn't reach a particular opinion about
10 how exactly the app for the distributor would be 06:30:19
11 distributed. But I -- I do think that it would
12 have been five entrants into the market, and then I
13 identified the five likely entrants.

14 Q. You think it would not be the case in
15 the but-for world that Apple could reject stores 06:30:41
16 within its store?

17 A. I think it would have to do so on some
18 neutral principle. So if it is the case that there
19 is some app -- an app for an App Store itself, a
20 rival app store that is violating privacy or has 06:30:54
21 malicious content, or is very buggy in some way
22 that -- that makes their device break down, I think
23 they could reject that under App Review, as with
24 any app.

25 But if they're rejecting it on the basis 06:31:09

1 of they don't like competition from a rival 06:31:09
2 App Store, then that would be a violation because
3 that would be just a de facto exclusivity
4 restraint.

5 Q. Do you know whether Epic made a request 06:31:28
6 of Apple to be a store within the App Store or a
7 store outside the App Store?

8 For both or neither.

9 A. I'm not sure.

10 Q. Do you know if Amazon has ever made a 06:31:51
11 request to Apple to operate an iOS App Store?

12 A. I don't know if they ever made a request
13 to Apple, no.

14 But the policy of Apple is very
15 well-known, though. So I -- I wouldn't expect 06:32:03
16 people to make futile requests.

17 Q. Your opinion is that Apple's policy is
18 anticompetitive conduct?

19 MR. LOPEZ: Objection.

20 THE DEPONENT: Well, which policy are you 06:32:21
21 talking about?

22 Q. (By Mr. Swanson) Policy of not having
23 app stores within the App Store, for example.

24 A. No, I'm saying it's -- it's exclusivity
25 restraints. All the exclusivity restraints I 06:32:28

1 describe are anticompetitive. And they're 06:32:32
2 well-known that Apple has a policy of imposing
3 those exclusivity restraints that it feels it
4 should have -- be the only app distributor of iOS
5 apps. 06:32:44

6 Q. Has Valve ever made a request to Apple to
7 operate an iOS App Store?

8 A. I'm -- I'm not sure. But, again, I think
9 everybody would know it would be futile to ask.
10 You'd have to -- you know, unless you're going to 06:32:58
11 sue to try to break it open and change their
12 exclusivity restraints, they've already got very
13 firm restraints against such a possibility.

14 Q. Let me ask you some questions about your
15 appendix A, which I believe starts at page 224. 06:33:17

16 Actually, why don't we start at page 228,
17 paragraph 453.

18 Let me know when you're there.

19 A. Okay.

20 Q. Okay. You indicate here that "Google 06:33:55
21 anticompetitively restrained competition in the
22 domestic Android app distribution market."

23 You're aware that Google is a member of
24 the class in this case?

25 A. I -- I haven't checked that out. If it 06:34:16

1 sells an app for which it charges a fee, it would 06:34:18
2 be. I can't offhand think of such an app. But if
3 so, they would be part of the class, yeah.

4 MR. LOPEZ: Calls for a legal conclusion.

5 Objection. 06:34:33

6 Q. (By Mr. Swanson) Isn't it a fact that
7 Google, if not the largest class member, is one of
8 the top two or three?

9 A. I'm unaware of evidence to support that
10 statement. 06:34:49

11 MR. LOPEZ: Objection.

12 Q. (By Mr. Swanson) Is it your opinion that
13 Google has been injured by Apple's alleged conduct?

14 A. Yeah. I mean -- well, if they are in the
15 class, yes. 06:35:01

16 Q. And I apologize. I think I asked you
17 this earlier.

18 But are you aware that Google has been
19 sued by Pure Sweat for monopolizing Android app
20 distribution market? 06:35:22

21 I can't remember -- I know I asked. I
22 can't remember. You said you didn't know or you
23 didn't --

24 A. I'm not -- I don't know.

25 Q. Okay. Do you agree that the Android app 06:35:29

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1 distribution market is similar to the iOS app 06:35:36

2 distribution market?

3 MR. LOPEZ: Object to the form.

4 THE DEPONENT: It's got some

5 similarities, but a lot of differences as well. 06:35:42

6 Q. (By Mr. Swanson) Is it your opinion that

7 the domestic Android app distribution market is

8 more competitive than the domestic iOS app

9 distribution market?

10 MR. LOPEZ: Objection. 06:35:56

11 THE DEPONENT: So the question was,

12 domestic Android app distribution compared to

13 distribution iOS app distribution?

14 Q. (By Mr. Swanson) Uh-huh.

15 A. It's a more competitive -- I don't -- 06:36:05

16 it's different. It's got different anticompetitive

17 constraints. It does -- it does allow multiple app

18 distributors. But then it's got a lot of

19 anticompetitive restraints to prevent competition

20 between them. 06:36:21

21 So I don't know. I would say -- I would

22 say it's a different mix of -- of them. And I

23 suppose it's -- it's less absolute than the

24 exclusivity restraints imposed by Apple.

25 Q. Would you say it is slightly more 06:36:38

1 competitive than the domestic iOS app distribution 06:36:41
2 market?

3 A. I -- I don't know. I mean, it's very
4 anticompetitive, but it's maybe slightly. There
5 is -- there is at least some rivals. Whereas, 06:36:53
6 you know, Apple has effec- -- effectively
7 foreclosed 100 percent of the market. So I guess
8 it is a -- a slight difference.

9 Q. I take it that you have not evaluated
10 whether the Android app distribution market in 06:37:22
11 China is tainted by anticompetitive conduct?

12 A. I haven't investigated the market in
13 China, no.

14 Q. Okay. And you don't know whether that
15 market is similar to the iOS app distribution 06:37:36
16 market?

17 A. I -- since I haven't investigated it, I
18 wouldn't know.

19 Q. Okay. In -- in your view, is the
20 domestic Android app distribution market less 06:37:50
21 similar to the iOS app distribution market than
22 either the Windows or macOS app distribution
23 markets?

24 MR. LOPEZ: Objection.

25 THE DEPONENT: Okay. Say that all again. 06:38:02

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1 That was quite a compound -- 06:38:02

2 Q. (By Mr. Swanson) I know -- I know you're
3 good at math and logic.

4 A. Yeah.

5 Q. In your view, is the domestic Android app 06:38:10
6 distribution market less similar to the iOS app
7 distribution market than either the Windows or the
8 macOS app distribution markets?

9 MR. LOPEZ: Object to form.

10 THE DEPONENT: No, I don't think it's 06:38:25
11 less. Is it -- is it less similar. It is -- no,
12 it's not less similar. It's more similar. Because
13 it's more anticompetitive. It's anticompetitively
14 constrained far more than the Microsoft -- or I
15 mean, the Windows or Mac markets. 06:38:49

16 Q. (By Mr. Swanson) In your opinion, has
17 Samsung engaged in any anticompetitive conduct in
18 the Android app distribution market?

19 MR. LOPEZ: Objection.

20 THE DEPONENT: I don't think that I 06:39:02
21 investigated that.

22 Q. (By Mr. Swanson) So if you haven't
23 investigated it, you have not, therefore, concluded
24 that Samsung has engaged in any anticompetitive
25 conduct in that market, correct? 06:39:15

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1 A. Correct. 06:39:18

2 Q. You agree that the Samsung Galaxy Store
3 is available on every Samsung phone sold in the
4 U.S.?

5 A. Yes. 06:39:27

6 Q. And that was true during the entire class
7 period?

8 A. I have not specifically investigated
9 that, so I couldn't testify to it.

10 Q. Do you understand that the -- the 06:39:39
11 Samsung Galaxy Store is preinstalled on the Samsung
12 devices?

13 A. I believe so, yes.

14 Q. So Samsung phone users don't need to
15 download the Samsung Galaxy Store, correct? 06:39:49

16 MR. LOPEZ: Objection.

17 THE DEPONENT: I believe so, yes.

18 Q. (By Mr. Swanson) Do you believe that the
19 Samsung Galaxy Store is not prominently displayed
20 on every Samsung phone -- phone sold in the U.S.? 06:40:02

21 MR. LOPEZ: Objection.

22 THE DEPONENT: I -- I haven't
23 investigated prominence of display of the
24 Samsung App Store. I -- I still focus on various
25 other anticompetitive constraints. 06:40:22

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1 Q. (By Mr. Swanson) Well, are you aware if 06:40:27
2 Samsung has any Google Play Store revenue-sharing
3 agreement with Google?

4 A. I -- I'm not sure.

5 Q. Well, do you think Samsung has such an 06:40:41
6 agreement?

7 MR. LOPEZ: Objection.

8 THE DEPONENT: I -- I wouldn't want to
9 testify to it without the -- investigating. I may
10 have covered that in this last section, but I am 06:40:50
11 forgetting, as I sit here today.

12 Q. (By Mr. Swanson) Well, I'll tell you, I
13 didn't see any indication there that you have
14 evidence that Samsung has any Google Play Store
15 revenue-sharing agreement with Google. 06:41:04

16 So you tell me if there is, you believe,
17 such evidence.

18 A. Not that I'm aware of, as I sit here
19 today.

20 Q. Okay. And if -- if you had such 06:41:13
21 evidence, you would have put it in your -- in your
22 report, correct?

23 A. I'm not sure. I would have had to reach
24 a conclusion about whether it merited conclusion,
25 whether -- how significant it was. And, you know, 06:41:28

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1 at some point, in a 249-page report, you do have to 06:41:31
2 leave some things out. So I'd have to think about
3 what the significance of that would be.

4 Q. Are you aware if Samsung has any
5 agreement that is -- with Google that is 06:41:43
6 conditioned on Samsung not preinstalling rival
7 Android app stores?

8 A. Am I aware?
9 I'm sorry. I do -- I do not track that.

10 Q. Are you aware of any agreement that 06:42:02
11 Samsung has with Google that is conditioned on
12 Samsung not preinstalling rival Android app stores?

13 A. Ahh. I don't know. I have a section on
14 them reaching agreements with various smartphone
15 makers. It does not specify the names of them, 06:42:44
16 though, in paragraph 453. So whether one of them
17 was Samsung or not, I'm not sure.

18 Q. Well, do you have any evidence of such an
19 agreement with Samsung?

20 A. I -- I don't know. I'd have to look at 06:42:59
21 the sources to see whether they name the
22 manufacturers and whether any of them are Samsung.

23 Q. Well, were you trying to convey that
24 Google has such an agreement with Samsung here?

25 A. I -- no, it doesn't say that one way or 06:43:15

1 the other. It just says they enter agreements with 06:43:20
2 OEMs that make smartphones to exclude rival Android
3 app distributors.

4 Q. And which paragraph?

5 A. It's paragraph 453. 06:43:32

6 Q. Well, what -- what -- so you -- you
7 don't -- do you know what evidence you're referring
8 to here?

9 A. I would have to look back at these
10 footnotes and look at the -- the sources. I just 06:43:49
11 don't recall, as I sit here today, what -- what
12 OEMs these particular documents referenced.

13 Q. Well, what about the top of page 229,
14 doesn't that list the OEMs that you're talking
15 about? 06:44:04

16 A. It lists -- that -- that sentence just
17 lists the ones that are -- were alleged by Epic,
18 and it says it's consistent with that. It doesn't
19 say that they are an exclusive list of every OEM
20 that reached such an agreement with Google. 06:44:20

21 Q. Okay. Well, as you sit here, are you
22 contending that Google and Samsung have such an
23 agreement with respect to preinstallation?

24 MR. LOPEZ: Objection.

25 THE DEPONENT: Preinstallation of rival 06:44:36

1 Android apps, not -- not of Samsung, right? 06:44:38

2 Q. (By Mr. Swanson) Correct.

3 A. Yeah. I -- I'm not sure. And I -- and I

4 guess if you look at these sources, you would find

5 out, but -- whether they included Samsung or not, 06:44:45

6 but I -- I can't recall that, as I sit here today.

7 Q. Do warnings in Google's Chrome browser

8 against installing APK files prevent Samsung users

9 from downloading apps from the

10 Samsung Galaxy Store?

06:45:09

11 A. No. I think this only applies for app

12 distributors who are not preinstalled.

13 Q. Okay. In paragraph 459, you talk about

14 the steps necessary to install an Android app from

15 a source other than a preinstalled Android app

06:45:40

16 distributor.

17 So these are not steps that apply to apps

18 downloaded from the Samsung Galaxy Store, correct?

19 A. Correct.

20 Q. Do you -- do you have an Android phone?

06:46:04

21 A. I do not.

22 Q. Do you have an iPhone?

23 A. Yes.

24 Q. Have you ever had a Samsung phone?

25 A. No.

06:46:18

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1 Q. Have you investigated the extent to which 06:46:21
2 Samsung phone users in the United States are aware
3 that they can download apps from a
4 Samsung Galaxy Store?

5 A. I have not investigated their awareness. 06:46:37

6 Q. Why do you think that Samsung Galaxy
7 phone user -- I'm sorry -- Samsung phone users do
8 not download more apps from the Samsung
9 Galaxy Store?

10 MR. LOPEZ: Objection. 06:47:00

11 THE DEPONENT: I am not sure.

12 Q. (By Mr. Swanson) Are you offering an
13 opinion that the Samsung Galaxy Store does not
14 compete with Google Play in the U.S. market?

15 A. No. 06:47:21

16 Q. Do you have an understanding or opinion
17 as to the average commission rate on the
18 Samsung Galaxy Store?

19 A. I -- I don't know what the average is,
20 no. 06:47:33

21 Q. Do you have any basis to conclude that
22 the average commission on the Samsung Galaxy Store
23 is lower than the average commission on Apple's
24 App Store?

25 A. Can you say that again? 06:47:45

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1 Q. Do you have any basis to conclude that 06:47:46
2 the average commission on the Samsung Galaxy Store
3 is lower than the average commission on Apple's
4 App Store?

5 A. I I don't know what the average is so 06:47:58
6 I haven't -- I haven't -- I don't have the data to
7 answer well, I -- I haven't investigated that
8 issue. So I can't give you -- testify to an answer
9 on that.

10 Q. Okay. Do you know how many commission 06:48:10
11 tiers Samsung uses in its store?

12 A. I don't know.

13 Q. If you could turn to paragraph -- we can
14 move away from appendix A, but back to the body of
15 the report -- page 107, paragraph 205, if you could 06:48:33
16 turn to that.

17 A. Okay.

18 Q. Okay. Let me know when you're there.

19 A. I'm there.

20 Q. Okay. You write here that the enormous 06:48:52
21 profit margins -- "The above enormous profit
22 margins indicate a monopoly power to raise price
23 above competitive" "above competitive levels
24 regardless of how the market is defined."

25 Is evidence of a defendant's 06:49:10

1 profitability outside the relevant market evidence 06:49:12

2 of monopoly power within the relevant market?

3 A. Well, I think -- not if it's outside,

4 yes. But here the profits are on the App Store

5 itself. So I'm saying however you define that 06:49:38

6 market, you can define it more broadly, they must

7 have monopoly power to have such enormous profit

8 margins.

9 Q. Well, it -- I'm sorry.

10 A. The accepted method to infer the power -- 06:49:50

11 from the power of a price itself without

12 necessarily defining a market and calculating

13 market shares.

14 Q. Well, if the App Store, contrary to your

15 opinion, competes in multiple relevant markets, how 06:50:03

16 would you determine the store's profitability in

17 each market?

18 MR. LOPEZ: Objection.

19 THE DEPONENT: Well, they would -- if you

20 took the incorrect counterfactual that they're 06:50:19

21 competing in the multiple markets that you

22 mentioned, but they have enormous profits, then

23 that would indicate that they must have monopoly

24 power in at least some of those, if not all of

25 them, to explain those high profits. 06:50:34

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1 Q. (By Mr. Swanson) Are -- are you familiar 06:50:39
2 with the concept of economic profits?

3 A. Yes.

4 Q. How do economics profits differ from
5 accounting profits, as a general matter? 06:50:49

6 A. Well, the accountants have their own set
7 of rules for what counts as a cost. As a matter of
8 economics, I try here to focus much more on what --
9 either marginal costs or a measure that includes
10 recurring fixed costs. But you -- you can't, for 06:51:04
11 example -- for the economics, you wouldn't be
12 amortizing sunken costs, for example. Where in
13 accounting, sometimes one does.

14 Q. Is it your testimony that your opinions
15 based on Apple's profitability are based on 06:51:25
16 economic profits?

17 A. Yes.

18 Q. And is it your testimony that you
19 calculated accurately Apple's economic profits?

20 A. Yes. 06:51:42

21 Q. You indicate that you're relying on
22 several Apple documents showing App Store revenues
23 and costs during the class period.

24 Do you recall that --

25 A. Yes. 06:51:55

1 Q. -- in paragraph 202? 06:51:56

2 Did you review any testimony from the
3 Epic trial about those documents?

4 A. I believe my staff did. I myself did not
5 review the testimony in the Epic case about this. 06:52:12

6 Q. Okay. So does that mean you are or are
7 not relying on that testimony about those
8 documents?

9 A. I'm not. I'm relying on the sources I
10 cite here for the various categories of cost. 06:52:29

11 Q. Okay. So do you know how the Apple
12 figures in those documents were calculated?

13 A. I -- I don't know the methodology that I
14 used to calculate them. I'm relying here on their
15 own description of what they are. 06:52:52

16 Q. Are you familiar with the economic
17 concept of joint costs?

18 A. Yes.

19 Q. What's the economic definition of a joint
20 cost? 06:53:05

21 A. It's a cost that helps support the supply
22 of two different products.

23 Q. Does Apple incur any costs that are joint
24 costs of the App Store and the iOS operating
25 system? 06:53:21

1 MR. LOPEZ: Objection. 06:53:22

2 THE DEPONENT: I don't think -- I mean,
3 they might have incurred some. But I don't think,
4 as are included here in the categories, I include
5 for marginal and recurring fixed costs. 06:53:34

6 Q. (By Mr. Swanson) Does Apple incur any
7 costs that are joint costs of the App Store and the
8 iPhone business?

9 MR. LOPEZ: Objection.

10 THE DEPONENT: Sorry. Say that again. 06:53:47

11 Q. (By Mr. Swanson) Does Apple incur any
12 costs that are joint costs of the App Store and the
13 iPhone business?

14 A. Well, this -- it looks like maybe part of
15 these OPEX costs are a mixture of some separate 06:54:07
16 expenses and some overhead expenses, and that they
17 are allocated in proportion to revenue. But these
18 are the general overhead expenses. To the extent
19 that's part of it would be a joint cost, I think.

20 Q. As a matter of economics, is it possible 06:54:28
21 to allocate joint costs other than on an arbitrary
22 basis?

23 MR. LOPEZ: Objection.

24 THE DEPONENT: It is. I mean, it's
25 possible. And I think to put it in proportion to 06:54:43

1 revenue is -- is very common. It is -- it is 06:54:47
2 difficult sometimes because you could allocate the
3 cost in a -- a different way.

4 Q. (By Mr. Swanson) Well, as a matter of
5 economics, is there any way to allo- -- any way to 06:55:05
6 allocate joint costs that is not arbitrary?

7 MR. LOPEZ: Objection.

8 THE DEPONENT: I think it may depend on a
9 particular market and whether you could figure out,
10 if they're operated separately, what sort of costs 06:55:19
11 would be borne.

12 Here, I think none of that affects the
13 marginal cost measure. But I do assume for the
14 alternative occurring fixed cost measure that it is
15 proportionate to revenue. 06:55:38

16 Q. (By Mr. Swanson) Do you agree that
17 Apple's investments in the iOS operating system
18 and iOS device hardware increase consumer demand
19 for iOS devices?

20 MR. LOPEZ: Objection. 06:55:51

21 THE DEPONENT: Say it again.

22 Q. (By Mr. Swanson) Do you agree that
23 Apple's investments in the iOS operating system
24 and iOS device hardware increase consumer demand
25 for iOS devices? 06:56:02

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1 A. Yes. 06:56:04

2 Q. Would you expect an increase in consumer
3 demand for iOS devices to increase or decrease
4 developer demand for iOS app distribution?

5 A. I would expect it to increase. 06:56:16

6 Q. In your opinion, are there any economic
7 benefits to Apple of owning the App Store in the
8 sense of economies of scope or scale?

9 A. Yes, I think there's a lot of economic
10 benefits to owning it. I mean, just a -- it's a 06:56:39
11 very profitable business. But also I think there
12 are economies of -- of scale from having such a
13 large App Store.

14 Q. How about economies of scope?

15 A. Yeah. I'd -- I'd have to see more about 06:56:59
16 what the alleged economies of scope would be,
17 what's the other product that you're alleging that
18 they have economies of scope with.

19 Q. iPhones, iOS devices.

20 A. I didn't see any evidence of economies of 06:57:12
21 scope there to the contrary, as I conclude.
22 There's no good procompetitive justification for
23 forcing them to be together, which is one of the
24 reasons I conclude that it's a anticompetitive tie
25 to force them to be together. 06:57:30

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1 Q. Okay. In your opinion, are there any 06:57:33
2 economic benefits to Sony of owning the online
3 PlayStation store?

4 MR. LOPEZ: Objection.

5 THE DEPONENT: I -- I assume there must 06:57:46
6 be economic benefits otherwise it wouldn't own the
7 store.

8 Q. (By Mr. Swanson) If Sony sold the online
9 PlayStation store to a third party, do you expect
10 that that would impact adversely Sony's other 06:57:59
11 PlayStation business?

12 MR. LOPEZ: Objection.

13 THE DEPONENT: I -- I don't know. I
14 guess it would depend upon whether there's any
15 difference in policy of the new owner versus what 06:58:15
16 Sony did with its PlayStation store.

17 MR. SWANSON: Can we -- I think I may be
18 just about finished. Can we take a short break to
19 facilitate my reaching that conclusion. I know
20 we're almost out of time in any event. 06:58:33

21 MR. LOPEZ: Sure.

22 MR. SWANSON: Okay.

23 THE VIDEOGRAPHER: We're going off the
24 record. It's 6:58 p.m. This is the end of
25 media 7. 06:58:41

1 (Recess taken.) 07:04:29

2 THE VIDEOGRAPHER: We are on the record
3 at 7:04 p.m. This is the beginning of media 8 in
4 the deposition of Einer Elhauge.

5 MR. SWANSON: May be the end of media 8 07:05:03
6 because I have no -- no further questions. And
7 thank you, Professor, for all the time today.

8 MR. LOPEZ: And I wanted to note on the
9 record that the Professor reserves review and
10 signature of his transcript. 07:05:15

11 MS. MANIFOLD: And I actually have
12 approximately maybe even less than five minutes of
13 questions. And I appreciate the Professor's
14 indulgence, and I will try and be as brief and as
15 efficient as possible. 07:05:29

16 EXAMINATION

17 BY MS. MANIFOLD:

18 Q. And let me just quickly reintroduce
19 myself. My name is Betsy Manifold. I'm an
20 attorney on behalf of the consumer plaintiffs. 07:05:35

21 I know it's been a long day for you, so
22 I'm just quickly going to go through a couple of
23 questions and try to be even shorter than five
24 minutes, if possible. So thank you.

25 Professor, based on the economic evidence 07:05:48

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1 that you reviewed, you determined that Apple's 07:05:52
2 challenged conduct harmed the consumers -- and when
3 I say "consumers," I mean iOS mobile device
4 owners -- is based on the iOS apps and IAP; is
5 that fair to say? 07:06:08

6 A. Yes.

7 Q. And based on the economic evidence that
8 you reviewed, you concluded that consumers suffered
9 anticompetitive harm; is that fair to say?

10 A. Yes. 07:06:24

11 Q. And I think you repeatedly told
12 Mr. Swanson that you didn't opine as to the actual
13 damages in this case; is that fair to say?

14 A. Yes.

15 Q. And that you did not opine as to the 07:06:41
16 calculation of any damages in this case; is that
17 fair to say?

18 A. Yes.

19 Q. And you didn't opine as to the
20 calculation of any price impact with regard to 07:06:51
21 Apple's alleged conduct; is that fair to say?

22 MR. LOPEZ: Objection.

23 MR. SWANSON: Objection. I'll join in
24 that objection by my friend, Mr. Lopez.

25 THE DEPONENT: I would just say -- just 07:07:07

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1 on the fact of an impact. But I didn't quantify 07:07:08
2 the magnitude of the impact on commissions.

3 Q. (By Ms. Manifold) Correct.

4 And what type -- oh, strike that.

5 Do you agree with the statement that 07:07:33
6 profit-maximizing prices decrease when rivals enter
7 a market?

8 A. Generally, yes, unless of the unusual
9 case of perfect price coordination, which I
10 conclude is not plausible here. 07:07:49

11 Q. And do you agree with economists that
12 eliminating rival -- a rival anticompetitive
13 inflates prices?

14 A. Eliminating a rival anticompetitive --
15 what was the -- there's a noun missing. 07:08:09

16 Q. Yeah, there could be. It's late for all
17 of us, right.

18 Do you agree that eliminating a rival
19 anticompetitively inflates prices?

20 A. Oh, anticompetitively. It certainly can, 07:08:25
21 and I think it -- eliminating rivals here did. I
22 guess I can imagine cases where one eliminates only
23 one rival out of hundreds and it doesn't affect
24 prices.

25 But, in general, that -- the direction of 07:08:39

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1 the effect would be making prices worse, to the 07:08:42
2 extent it has any effect on prices.

3 Q. And I'm assuming, based on your answer,
4 that you would agree that Apple succeeded in
5 eliminating every significant rival with regard to 07:08:55
6 the App Store?

7 MR. SWANSON: Object to the form.

8 THE DEPONENT: Yes, except there were
9 some -- there were some fringe ones that had some
10 paltry amount of -- of sales in the market 07:09:05
11 by violating various contractual conditions.

12 Q. (By Ms. Manifold) And would you agree
13 that when consumers purchased iOS mobile devices
14 that they became locked into using the iOS
15 platform for downloading native iOS apps? 07:09:21

16 MR. SWANSON: Objection --

17 THE DEPONENT: Yes.

18 MR. SWANSON: -- to form.

19 THE DEPONENT: Oh, sorry.

20 Yes, I do. 07:09:27

21 Q. (By Ms. Manifold) And would you agree,
22 with limited exception, consumers can only install
23 an iOS native app through the App Store?

24 A. Yes. And to go -- I go a little further
25 and say then the limited exceptions really allow 07:09:43

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1 rival app distribution or would be any constraint 07:09:45
2 on Apple's commissions.

3 Q. And in the App Store, in terms of
4 function, consumers pay Apple for the right to
5 install an app on her mobile device; is that fair 07:09:58
6 to say?

7 A. Well, for the right to -- I know what you
8 mean. When they -- they pay for the device,
9 depending upon the app, they may have to pay for
10 the app or not. So some apps are free. But if 07:10:16
11 they have to pay for the app, if the payment does
12 go to Apple.

13 Q. Okay. And do you have any understanding
14 that if consumers want to refund, who they go to?

15 A. I think to Apple as well. 07:10:35

16 Q. And if there's any fraud involved with
17 the functioning of the -- the credit card payment,
18 or in the functioning of the payment, do you know
19 who bears the loss of that fraud?

20 MR. LOPEZ: Objection. 07:10:52

21 THE DEPONENT: I -- I'm not sure.

22 Q. (By Ms. Manifold) In terms of the
23 economic evidence that you reviewed, did you review
24 any individual financial information of your class
25 members? 07:11:06

1 A. No. 07:11:07

2 Q. And so it would be fair to say that you
3 didn't do any actual calculation of marginal costs
4 for any specific developer?

5 A. Correct. 07:11:19

6 Q. And were you asked to do a marginal cost
7 analysis for any specific developer?

8 MR. LOPEZ: Objection.

9 THE DEPONENT: No, I was not.

10 Q. (By Ms. Manifold) Were you asked to do a 07:11:34
11 marginal cost analysis for your class members?

12 MR. LOPEZ: I'm going to object and
13 instruct not to answer.

14 THE DEPONENT: Oh...

15 MS. MANIFOLD: Okay. I think that's the 07:11:41
16 last of my questions anyway, Rob. So your
17 instruction comes at a perfect time.

18 And I want to thank the Professor for his
19 time. And thank you, Rob, for allowing my few
20 minutes of questions. 07:11:57

21 MR. LOPEZ: Sure.

22 MR. SWANSON: Are we done?

23 MR. LOPEZ: No questions.

24 MS. MANIFOLD: I have completed.

25 MR. SWANSON: Okay. All right. 07:12:03

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1 THE VIDEOGRAPHER: Okay. So we are going 07:12:05
2 off the record at 7:12 p.m. and this concludes
3 today's testimony given by Einer Elhauge.

4 The total number of media units used was
5 eight and will be retained by Veritext. 07:12:14

6 (TIME NOTED: 7:12 P.M.)

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1 I, EINER ELHAUGE, do hereby declare under
2 penalty of perjury that I have read the foregoing
3 transcript; that I have made any corrections as
4 appear notes; that my testimony as contained
5 herein, as corrected, is true and correct.

6 Executed this ____ day of _____,
7 2021, at _____, _____.

8
9
10
11 _____
EINER ELHAUGE

1 I, Rebecca L. Romano, a Registered
2 Professional Reporter, Certified Shorthand
3 Reporter, Certified Court Reporter, do hereby
4 certify:

5 That the foregoing proceedings were taken
6 before me remotely at the time and place herein set
7 forth; that any deponents in the foregoing
8 proceedings, prior to testifying, were administered
9 an oath; that a record of the proceedings was made
10 by me using machine shorthand which was thereafter
11 transcribed under my direction; that the foregoing
12 transcript is true record of the testimony given.

13 Further, that if the foregoing pertains to the
14 original transcript of a deposition in a Federal
15 Case, before completion of the proceedings, review
16 of the transcript [] was [X] was not requested.

17 I further certify I am neither financially
18 interested in the action nor a relative or employee
19 of any attorney or any party to this action.

20 IN WITNESS WHEREOF, I have this date
21 subscribed my name.

22
23 Dated: August 1, 2021

A handwritten signature in cursive script, reading "Rebecca L. Romano", is written over a horizontal line.

Rebecca L. Romano, RPR, CCR

CSR. No 12546

DANIEL G. SWANSON

dswanson@gibsondunn.com

August 1, 2021

RE: CAMERON VS. APPLE INC.

JULY 30, 2021, EINER ELHAUGE, JOB NO. 4731140

The above-referenced transcript has been
completed by Veritext Legal Solutions and
review of the transcript is being handled as follows:

___ Per CA State Code (CCP 2025.520 (a)-(e)) - Contact Veritext
to schedule a time to review the original transcript at
a Veritext office.

___ Per CA State Code (CCP 2025.520 (a)-(e)) - Locked .PDF
Transcript - The witness should review the transcript and
make any necessary corrections on the errata pages included
below, notating the page and line number of the corrections.
The witness should then sign and date the errata and penalty
of perjury pages and return the completed pages to all
appearing counsel within the period of time determined at
the deposition or provided by the Code of Civil Procedure.

___ Waiving the CA Code of Civil Procedure per Stipulation of
Counsel - Original transcript to be released for signature
as determined at the deposition.

___ Signature Waived - Reading & Signature was waived at the
time of the deposition.

Page 322

1 ___ Federal R&S Requested (FRCP 30(e)(1)(B)) - Locked .PDF
2 Transcript - The witness should review the transcript and
3 make any necessary corrections on the errata pages included
4 below, notating the page and line number of the corrections.
5 The witness should then sign and date the errata and penalty
6 of perjury pages and return the completed pages to all
7 appearing counsel within the period of time determined at
8 the deposition or provided by the Federal Rules.
9 _X_Federal R&S Not Requested - Reading & Signature was not
10 requested before the completion of the deposition.

1 RE: CAMERON VS. APPLE INC.
2 EINER ELHAUGE, JOB NO. 4731140
3 E R R A T A S H E E T
4 PAGE_____ LINE_____ CHANGE_____
5 _____
6 REASON_____
7 PAGE_____ LINE_____ CHANGE_____
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9 REASON_____
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16 PAGE_____ LINE_____ CHANGE_____
17 _____
18 REASON_____
19 PAGE_____ LINE_____ CHANGE_____
20 _____
21 REASON_____
22 _____
23 _____
24 WITNESS Date
25

Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate. The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

DISCLAIMER: THE FOREGOING FEDERAL PROCEDURE RULES ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

THE ABOVE RULES ARE CURRENT AS OF APRIL 1, 2019. PLEASE REFER TO THE APPLICABLE FEDERAL RULES OF CIVIL PROCEDURE FOR UP-TO-DATE INFORMATION.

VERITEXT LEGAL SOLUTIONS
COMPANY CERTIFICATE AND DISCLOSURE STATEMENT

Veritext Legal Solutions represents that the foregoing transcript is a true, correct and complete transcript of the colloquies, questions and answers as submitted by the court reporter. Veritext Legal Solutions further represents that the attached exhibits, if any, are true, correct and complete documents as submitted by the court reporter and/or attorneys in relation to this deposition and that the documents were processed in accordance with our litigation support and production standards.

Veritext Legal Solutions is committed to maintaining the confidentiality of client and witness information, in accordance with the regulations promulgated under the Health Insurance Portability and Accountability Act (HIPAA), as amended with respect to protected health information and the Gramm-Leach-Bliley Act, as amended, with respect to Personally Identifiable Information (PII). Physical transcripts and exhibits are managed under strict facility and personnel access controls. Electronic files of documents are stored in encrypted form and are transmitted in an encrypted fashion to authenticated parties who are permitted to access the material. Our data is hosted in a Tier 4 SSAE 16 certified facility.

Veritext Legal Solutions complies with all federal and State regulations with respect to the provision of court reporting services, and maintains its neutrality and independence regardless of relationship or the financial outcome of any litigation. Veritext requires adherence to the foregoing professional and ethical standards from all of its subcontractors in their independent contractor agreements.

Inquiries about Veritext Legal Solutions' confidentiality and security policies and practices should be directed to Veritext's Client Services Associates indicated on the cover of this document or at www.veritext.com.